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Synopsis of Mesoamerican *Pilea* (Urticaceae), including eighteen typifications and a key to the species

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SYNOPSIS. A key to the Mesoamerican taxa of *Pilea* is presented together with a nomenclatural revision of 85 names, of which 18 are typified here: *P. brittoniae* Urb., *P. centradenoides* Seem., *P. cornuto-cucullata* Cufod., *P. forgeti* N.E. Br., *P. hyalina* Fenzl, *P. imparifolia* Wedd., *P. involucrata* (Sims) Urb., *P. latifolia* Wedd., *P. lundii* Liebm., *P. microphylla* var. *peregrina* (Griseb.) Urb., *P. nummulariifolia* (Sw.) Wedd., *P. ovalis* Griseb., *P. periclada* Donn. Sm., *P. pubescens* Liebm., *P. rubiifolia* Blume, *P. rupicola* Wedd., *P. trianaeana* Wedd., and *P. vulcanica* Liebm. A list of material examined with determinations is appended.

INTRODUCTION

With over 600 species (Burger, 1977), *Pilea* Lindl. is the largest genus in the Urticaceae and one of the larger genera in the Urticales. It is distributed throughout the tropics, subtropics and temperate regions (with the exception of Australia, New Zealand and Europe) and easily distinguished from other neotropical Urticaceae by the combination of opposite leaves and a single ligulate intrapetiolar stipule in each leaf axil.

Pilea was first described by Lindley in 1821 using *Pilea muscosa* Lindl., a superfluous name for *P. microphylla* (L.) Liebm., as its type. This species was introduced as a greenhouse exotic in the early nineteenth century. Prior to Lindley's description there had been disagreement as to where it should be placed, with Linnaeus (1759) placing it in *Parietaria* L. and Swartz (1797) and Willdenow (1805) placing it in *Urtica* L. Little more than 30 years later Weddell, in his comprehensive revisions of the genus in 1856–1857 and 1869, had identified 159 taxa in three major subgeneric groupings, many of these taxa having been originally placed in *Urtica* by their authors.

Pilea has attracted little monographic attention since Weddell's monographs but the genus has attracted significant contributions from localized treatments (Killip, 1939; Standley & Steyermark, 1952; Adams, 1972; Burger, 1977 and Chen, 1982) and by 1997 a further 562 names and 17 major subgeneric groupings had been published (Anon., 1997).

For the purpose of this synopsis, the definition of Mesoamerica is that used in *Flora Mesoamericana* (Davidse et al., 1994), a region bounded to its north by the Mexican states of Yucatán, Campeche, Tabasco, Quintana Roo and Chiapas, and to its south by Panama. This represents the closest geopolitical delimitation of the Mesoamerican phytogeographical region. Within Mesoamerica there are 85 names for 56 recognized taxa of *Pilea* and there is significant confusion over the application of many names. Combined with a lack of regional keys, and the similarity of form and habit within the genus, the determination of collections can be very difficult and has resulted in a significant proportion of herbarium material from Mesoamerica being misidentified. As more names are published (there are currently over 800 (*Index Kewensis*, 1997)) so the logistical problems of undertaking a monographic revision grow, and the classification of the genus has become more problematic. Whether or not *Pilea* is the subject of a global monographic revision in the near future, it is felt that the preparation of an identification key and nomenclatural review for Mesoamerican *Pilea* would be a useful first step in addressing some of the problems encountered whilst dealing with this genus for *Flora Mesoamericana* and would help provide a foundation for future work on neotropical *Pilea*.

In this treatment types are cited with the country of origin, collector name and number and the herbaria from which material has been seen. However, where types are designated here, all of the label locality information available, and the date of collection is included. Distributions for each species are given to country level within Mesoamerica, with the exception of Mexico and species which are only known from a single country, where they are given to state level. Global distributions are given to regional level e.g. South America, West Indies etc., following *Flora Mesoamericana* protocols (Davidse et al., 1994).

MATERIALS AND METHODS

The nomenclatural revision was based on the examination of the original published descriptions, type material for all 85 names, and all Mesoamerican material available on loan from BRU, C, F, GH, ITIC, K, LL, MEXU, MO, NY, P, PH, PMA, SCZ, TEX, and US. In

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addition, material of related species from outside Mesoamerica, and from areas adjacent to Mesoamerica (e.g. Oaxaca and Veracruz in Mexico) was obtained, with the result that 2064 collections were examined and determined, 1748 of them from Mesoamerica. Of the 85 names included in this study, type material is known to have been destroyed for only one species (*Pilea cornuto-cucullata* Cufod.), and in this case a photograph of the holotype exists. Where it was felt that the existing type material was ambiguous, e.g. in the case of *Pilea nummulariifolia* (Sw.) Wedd. where the type element was an illustration, then an epitype was selected.

As the number of species described in *Pilea* has grown, so have the characters used to delimit species in the genus. The most frequently used macromorphological characters used by previous authors have been: leaf isomorphy and margin morphology, staminate inflorescence arrangement, staminate flower division and staminate tepal appendage morphology, stipule morphology, cystolith arrangement in the leaves, and fruit size. In this study, emphasis was also placed on pistillate inflorescence arrangement, pistillate flower size and dorsal tepal morphology, and stem morphology. All material was examined using a stereo microscope at ×64 to ×400 magnification and up to 71 observations were made for each specimen sampled. These observations were then used as a guide to delimiting taxa and in the preparation of the identification key. The key to the species was prepared using herbarium specimens and the observations made for each species; it was then tested in the herbarium on the loan material and collections at BM, and on the collections present at GH and P in 1999.

Many of the characters used in this key are very small and it may be necessary to make measurements +/– 0.1 mm; a dissecting microscope (to ×200) is therefore recommended. The terminology used for the description of leaf shape is based on that in Stearn (1992). Because of their small size and large number, it is usually fairly easy to find well preserved flowers on herbarium specimens.

TAXONOMIC TREATMENT

Key to the species

1 Leaves pectinate ..... 40. **P. pteridophylla**

– Leaves entire, serrate, crenate or sinuate, but never pectinate 2

2 Leaves sinuate ..... 52. **P. trichomanophylla**

– Leaves entire, serrate or crenate 3

3 Leaves 4–6 at each node, verticillate ..... 49. **P. senarifolia**

– Leaves 2 at each node, opposite 4

4 Stipules generally more than 2 mm long, prominent (clearly visible to the naked eye), auriculate, cordiform, ovate, oblong or obovate, occasionally caducous 5

– Stipules generally less than 2 mm long, evident to obscure (not clearly visible to the naked eye), deltate or broadly ovate 42

5 Leaf margin entire 6

– Leaf margin serrate or crenate, at least towards the leaf apex 7

6 Stipules auriculate; upper leaf surface densely pubescent, the hairs to 1.3 mm long ..... 29. **P. lindeniana**

– Stipules narrowly ovate to ovate; upper leaf surface glabrous to sparsely pubescent, where pubescent the hairs to 2.3 mm long ..... 36. **P. parietaria**

7 Upper leaf surface glabrous 8

– Upper leaf surface pubescent 26

8 Petioles winged.. 9

– Petioles unwinged.. 10

9 Stipules 2–6 mm long, ovate; upper leaf surface frequently with 'V'-shaped cystoliths ..... 26. **P. irrorata**

– Stipules 6–23 mm long, obovate or oblong; upper leaf surface lacking 'V'-shaped cystoliths ..... 41. **P. pteropodon**

10 Leaves of unequal length in pair, the ratio of smaller to larger > 1:1.5 11

– Leaves of equal or subequal length in pair, if subequal then the ratio of smaller to larger < 1:1.5 12

11 Petioles pubescent; leaf margin deeply serrate, the teeth weakly ascending ..... 6. **P. centradenoides**

– Petioles glabrous; leaf margin weakly serrate, the teeth strongly ascending ..... 12. **P. costaricensis**

12 Lower surface of leaves pubescent. 13

– Lower surface of leaves glabrous 20

13 Petioles glabrous ..... 10. **P. cornuto-cucullata**

– Petioles pubescent 4

14 Leaf margin entire from the base for ≥ 1/2 of the leaf length 15

– Leaf margin entire from the base for ≤ 1/3 of the leaf length 16

15 Secondary leaf veins 5–9 pairs, 30–65° to the midrib; stipules 2.5–5 mm long; staminate inflorescence < 10 mm long ..... 25. **P. involucrata**

– Secondary leaf veins 7–16 pairs, 60–75° to the midrib; stipules 5–14 mm long; staminate inflorescence > 30 mm long ..... 19. **P. forgeti**

16 Secondary leaf veins 4–6 pairs; lower surface of leaves eglandular; staminate flowers 3-parted; fruit ≥ 2 mm long ..... 54. **P. tripartita**

– Secondary leaf veins 6–28 pairs; lower surface of leaves glandular-punctate; staminate flowers 4-parted; fruit ≤ 1.5 mm long 17

17 Leaves lanceolate or narrowly elliptic, or sometimes falcate; lateral veins visible for over 3/4 of the leaf length; staminate inflorescences < 15 mm long ..... 34. **P. pallida**

– Leaves ovate, elliptic, broadly elliptic, rhomboid, obovate, but never falcate; lateral veins visible for 2/3–3/4 of the leaf length; staminate inflorescences >15 mm long 18

18 Leaf base cordate or occasionally subcordate; stipules widest at or below the midpoint; staminate flowers borne in 1–3 compact heads ..... 37. **P. pittieri**

– Leaf base acute, cuneate, decurrent, obtuse, subcordate or cordate; stipules widest at or above the midpoint; staminate flowers borne in loose panicles, or in 5 or more compact heads borne in a loose panicle 19

19 Leaves oblanceolate, rhomboid or elliptic; stipules 3–6 mm long; secondary leaf veins 60–90° to the midrib; subapical appendage of staminate tepals 1.3–1.5 mm long ..... 28. **P. latifolia**

– Leaves ovate to elliptic; stipules 7–20 mm long; secondary leaf veins 35–45° to the midrib; subapical appendage of staminate tepals 0.3–0.5 mm long ..... 1. **P. acuminata**

20 Petioles pubescent, the hairs short, curved and appressed (frequently difficult to see with the naked eye) 21

– Petioles glabrous 22

21 Leaves 63–235 mm long, with 13–28 pairs of secondary veins 60–80° to the midrib ..... 34. **P. pallida**

– Leaves 6.5–47 mm long, with 3–7 pairs of secondary veins 30–45° to the midrib ..... 4. **P. auriculata**

22 Upper surface of leaves variegated, the variegation visible when dry ..... 5. **P. cadierei**

– Upper surface of leaves never variegated, or if so, the variegation not visible when dry 23

23 Leaf margin entire from the base for ≥ 2/3 of the leaf length, thereafter remotely crenat ..... 2. **P. adamsiana**

– Leaf margin entire from the base for ≥ 2/3 of the leaf length, thereafter serrate, crenate or serrate-crenate 24

24 Leaves obovate ..... 19. **P. forgeti**

– Leaves ovate, lanceolate or elliptic 25

25 Upper surface of leaves drying bright green, yellow-green or occasionally pale brown ..... 45. **P. quercifolia**

– Upper surface of leaves drying dark brown, almost black ..... 10. **P. cornuto-cucullata**

26 Leaves of unequal length in pair, the ratio of smaller to larger > 1:1.5 27

– Leaves of equal or subequal length in pair, where subequal the ratio of smaller to larger < 1:1.5 28

27 Stipules cordiform or broadly ovate, auriculate at the base; lower surface of leaves glabrous, occasionally sparsely pubescent; secondary leaf veins 3–5 pairs, 30–45° to the midrib ..... 9. **P. cornmanae**

– Stipules obovate, oblong or narrowly ovate, neither cordiform nor auriculate at the base; lower surface of leaves always pubescent; secondary leaf veins 6–17 pairs, 45–90° to the midrib ..... 6. **P. centradenoides**

28 Lower surface of leaves glabrous ..... 4. **P. auriculata**

– Lower surface of leaves pubescent 29

29 Leaves orbicular or suborbicular ..... 33. **P. nummulariifolia**

– Leaves ovate, elliptic, obovate, rhomboid or lanceolate 30

30 Leaves obovate, rarely elliptic or ovate 31

– Leaves lanceolate, ovate, elliptic or rhomboid, occasionally obovate, in which case elliptic and/or ovate leaves also present 32

31 Plants to 10 cm; stem obscured by rosette of leaves ..... 47. **P. rostulata**

– Plants to 30 cm; stem clearly visible ..... 25. **P. involucrata**

32 Stipules as broad or broader than long, broadly ovate or cordiform 33

– Stipules longer than broad, oblong, obovate or narrowly ovate 34

33 Leaf margin deeply serrate; inflorescences unisexual; staminate flowers 3-parted, borne in solitary compact heads, the bracts forming an involucre ..... 48. **P. rugosissima**

– Leaf margin crenate-serrate, not deeply so; inflorescences bisexual; staminate flowers 4-parted, borne in loose panicles, the bracts not forming an involucre ..... .42. **P. pubescens**

34 Secondary veins < 8 pairs on larger leaves; fruit 1–3 mm long 35

– Secondary veins > 8 pairs on larger leaves; fruit < 2 mm long 37

35 Leaf margin entire from the base for 1/10–1/8 of its length; fruit 1.0–1.4 mm long ..... 1. **P. corona**

– Leaf margin entire from the base for 1/4–1/2 of its length; fruit 2–3 mm long 36

36 Lateral veins visible for over 3/4 of the leaf length; upper surface of leaves sparsely pubescent, the hairs < 1 mm long; staminate flowers 3-parted ..... 54. **P. tripartita**

– Lateral veins visible for 1/2–2/3 of the leaf length; upper surface of leaves pubescent, the hairs > 1 mm long; staminate flowers 4-parted ..... 42. **P. pubescens**

37 Staminate flowers borne in 1 or more compact heads 38

– Staminate flowers borne in loose panicles, occasionally borne in clumps along panicle branches 40

38 Cystoliths of upper leaf surface fusiform; leaf base cordate or subcordate; leaf apex acuminate to acute; subapical appendage of staminate tepals glabrous ..... 37. **P. pittieri**

– Cystoliths of upper leaf surface fusiform, 'V'- and or 'Y'-shaped; leaf base never cordate; leaf apex obtuse or cuspidate; subapical appendage of staminate tepals pubescent 39

39 Epiphytic or epipetric; leaves lanceolate, narrowly elliptic, occasionally elliptic; pistillate inflorescences 3–10 mm long, the peduncle 1/3–1/2 inflorescence length ..... 11. **P. corona**

– Terrestrial; leaves broadly elliptic, obovate or rhomboid; pistillate inflorescence 12–24 mm long, the peduncle 1/2–2/3 inflorescencelength ..... 15. **P. digitata**

40 Stems pubescent, with hairs to 1.8 mm long; cystoliths on stem fusiform, 'V'- and or 'Y'-shaped; leaves oblanceolate, rhomboid or broadly elliptic; fruit > 1.0 mm long ..... 18. **P. fasciata**

– Stems pubescent, with hairs to 0.8 mm long; cystoliths on stem fusiform; leaves ovate to ovate-lanceolate; fruit 0.5–1.0 mm long 41

41 Cystoliths on upper surface of leaves fusiform; apices of leaves acuminate to subcaudate; stipules 7–20 mm long; staminate inflorescences 30–90 mm long; fruit 1.0 mm long ..... 1. **P. acuminata**

– Cystoliths on upper surface of leaves fusiform, 'V'- and or 'Y'-shaped; apices of leaves acute or subcuspidate; stipules 6–7 mm long; staminate inflorescences 12–18 mm long; fruit 0.7–0.8 mm long ..... 21. **P. gomeziana**

42 Upper surface of leaves pubescent 43

– Upper surface of leaves glabrous 45

43 Margin serrate; staminate flowers 2-parted ..... 23. **P. hyalina**

– Margin entire; staminate flowers 4-parted 44

44 Leaves > 13 mm long, evenly spaced along the stem, occasionally clustered but never forming terminal rosettes, the lower surfaces pubescent towards the base ..... **36. P. parietaria**

– Leaves < 10 mm long, clustered towards the apex forming terminal rosettes, the lower surfaces glabrous ..... 22. **P. herniarioides**

45 Leaves of equal or subequal length in pair, where subequal the ratio of smaller to larger < 1:1.5 ..... .46

– Leaves of unequal length in pair, the ratio of smaller to larger ≥ 1:1.5 56

46 Leaves pinnately-veined 47

– Leaves 3-veined 49

47 Leaf margin entire ..... 32. **P. microphylla**

– Leaf margin crenate or crenate-serrate 48

48 Leaves linear-lanceolate; staminate inflorescences borne at the base of an internode which is shorter than the adjacent leaves ..... 39. **P. plumulosa**

– Leaves oblanceolate, narrowly rhomboid or narrowly obovate; staminate inflorescences borne at the base of an internode which is longer than, or rarely equal to, the adjacent leaves ..... 38. **P. pleuroneura**

49 Lateral primary veins visible for less than 3/4 the leaf length 50

– Lateral primary veins visible for 3/4 or more of the leaf length 51

50 Pistillate inflorescences bearing 6–20 flowers; larger petiole in pair < 14 mm long ..... 14. **P. dauciodora**

– Pistillate inflorescences bearing 30–300 flowers; larger petiole in pair ≥ 14 mm long ..... 56. **P. vulcanica**

51 The majority of petioles equal or subequal at each node, where subequal the ratio of shorter to longer < 1.5 52

– The majority of petioles unequal at each node, the ratio of the shorter to longer > 1.5 54

52 Leaves 2.5–7 mm wide; petioles < 4 mm long; staminate inflorescences bearing < 24 flowers ..... .27. **P. killipiana**

– Leaves > 8 mm wide; petioles > 4 mm long; staminate inflorescences bearing > 24 flowers 53

53 Secondary leaf veins straight or weakly curved, 60–90° to the midrib; staminate inflorescences 8–25 mm long; staminate pedicels up to 1 mm long ..... 31. **P. mexicana**

– Secondary leaf veins strongly curved, 45–60° to the midrib; staminate inflorescences 15–75 mm long; staminate pedicels up to 3 mm long ..... 20. **P. glabra**

54 Leaves ovate, frequently falcate; staminate flowers 1.3–1.5 mm long ..... 17. **P. falcata**

– Leaves oblong, linear-lanceolate, lanceolate or oblong-lanceolate, rarely falcate; staminate flowers 1.5–2.8 mm long 55

55 Stems drying yellow-green, pale green or green; staminate peduncle 8/10–9/10 inflorescence– length, the flowers borne in solitary compact heads ..... .3. **P. angustifolia**

– Stems drying brown, dark brown or black; staminate peduncle 1/8–1/3 inflorescence-length, the flowers borne in loose panicles ..... 20. **P. glabra**

56 Larger leaf in pair pinnately veined 57

– Larger leaf in pair 3-veined 59

57 Leaves entire; staminate flowers 0.5–0.8 mm long ..... 32. **P. microphylla**

– Leaves apically 3–5-dentate, rarely entire; staminate flowers 1.0–1.8 mm long 58

58 Smaller leaf in pair not reflexed; larger leaf in pair 10–63 mm long; staminate flowers 1–1.5 mm long ..... 24. **P. imparifolia**

– Smaller leaf in pair generally reflexed, appearing proximate to larger leaf; larger leaf in pair 5–11.5 mm long; staminate flowers 1.5–1.8 mm long ..... 53. **P. tridentata**

59 Stems prostrate 60

– Stems erect 67

60 Fruit ≥ 1.8 mm. 61

– Fruit ≤ 1.5 mm 63

61 Larger leaf in pair ≤ 30 mm. ..... 55. **P. tutensis**

– Larger leaf in pair > 35 mm. 62

62 Stems angulate in cross-section, drying dark brown almost black; staminate inflorescences solitary, bearing 11–50 flowers; pistillate inflorescences bearing 4–30 flowers ..... 30. **P. magnicarpa**

– Stems rounded or irregularly shaped in cross-section, not angulate, drying red-brown to dark brown; staminate inflorescences 1–4 per axil, bearing 15–200 flowers; pistillate inflorescences bearing 5–95(450) flowers ..... 43. **P. purulensis**

63 Lateral veins of leaves visible for 2/3 or less of the leaf length 64

– Lateral veins of leaves visible for 3/4 or more of the leaf length 65

64 Smaller leaf in pair < 4 mm wide; major petiole in pair 1.0–1.5 mm long ..... 44. **P. quadrata**

– Smaller leaf in pair ≥ 4 mm wide; major petiole in pair 1.5–2.5 mm long ..... 24. **P. imparifolia**

65 Lower surface of leaves pubescent, the hairs *c.* 0.5 mm long ..... 13. **P. daguensis**

– Lower surface of leaves glabrous 66

66 Stems with 'V'- or 'Y'-shaped cystoliths; minor leaves in pair 3–8 mm wide; pistillate inflorescences bearing 12–200 flowers ..... 35. **P. pansamalana**

– Stems lacking 'V'- or 'Y'-shaped cystoliths; minor leaves in pair 1.5–2.5 mm wide; pistillate inflorescences bearing 6–25 flowers ..... 16. **P. ecboliophylla**

67 Fruit > 1.5 mm. ..... .68

– Fruit ≤ 1.5 mm. 70

68 Smaller petioles in pair ≥ 3 mm long. ..... 8. **P. conjugalis**

– Smaller petioles in pair ≤ 1.5 mm long, or leaves sessile 69

69 Stems angulate in cross-section, drying dark brown almost black; staminate inflorescences solitary, bearing 11–50 flowers; pistillate inflorescences bearing 4–30 flowers ..... 30. **P. magnicarpa**

– Stems rounded or irregularly shaped in cross-section, not angulate, drying red-brown to dark brown; staminate inflorescences 1–4 per axil, bearing 15–200 flowers; pistillate inflorescences bearing 5–95(450) flowers ..... 43. **P. purulensis**

70 Smaller leaf in pair ≥ 10 mm wide. ..... 50. **P. skutchii**

– Smaller in pair < 9 mm wide 71

71 Upper surface of leaves lacking 'V'- or 'Y'-shaped cystoliths; secondary leaf veins inserted 45– 60° to the midrib; Costa Rica and Panama ..... 12. **P. costaricensis**

– Upper surface of leaves with some 'V'- or 'Y'-shaped cystoliths present; secondary leaf veins inserted 60–90° to the midrib; Tabasco, Chiapas, Guatemala and Belize 72

72 Smaller leaf in pair 1.0–1.8 mm wide; staminate inflorescences 16–54 mm, the flowers borne in a compact head ..... 46. **P. riparia**

– Smaller leaf in pair ≥ 3 mm wide; staminate inflorescences < 15 mm, the flowers borne in a loose panicle 73

73 Larger leaf in pair with 1/3 margin entire from the base; staminate inflorescences 10–14 mm; staminate tepal subapical appendage *c.* 0.1 mm, scale-shaped ..... 35. **P. pansamalana**

– Larger leaf in pair with 2/3 margin entire from the base; staminate inflorescences 4–9 mm; staminate tepal subapical appendage 0.5–1 mm, corniculate ..... 7. **P. chiapensis**

1. **Pilea acuminata** Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 302 (1851). Type: Mexico, *Liebmann* 14238 '2' (C!-holotype).

Pilea longipes Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 302 (1851). Type: Mexico, *Liebmann* 14242 (C!-holotype).

DISTRIBUTION. Mexico (Guerrero, Oaxaca, Veracruz and Chiapas), Costa Rica, Panama, 400–1700 m; South America.

2. **Pilea adamsiana** A.K. Monro in *Bull. nat. Hist. Mus. Lond. (Bot.)* **30**: 9 (2000). Type: Panama, *Hammel* 4702 (MO!-holotype).

DISTRIBUTION. Panama (Veraguas), 1300–1500 m.

3. **Pilea angustifolia** Killip in *J. Wash. Acad. Sci.* **15**: 295 (1925). Type: Costa Rica, *Cook & Doyle* 181 (US!-holotype).

DISTRIBUTION. Costa Rica (Alajuela, Cartago, Puntarenas and San José), 1100–2300 m.

4. **Pilea auriculata** Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 299 (1851). Type: Costa Rica, *Oersted* s.n. (C!-holotype).

DISTRIBUTION. Mexico (Chiapas), Guatemala, Costa Rica and Panama, 1400–3000 m.

5. **Pilea cadierei** Gagnep. & Guillaumin in *Bull. Mus. Hist. Nat.* sér. 2, **10**: 629 (1938). Type: Cultivated, from material collected in Vietnam by Cadière, *Anon.* s.n. (P!-holotype).

DISTRIBUTION. Mexico (Chiapas), Honduras, El Salvador and Costa Rica, 600–1400 m; West Indies, South America, Asia, Africa, Pacific Islands.

In cultivation throughout the tropics as an ornamental and frequently escaping.

The holotype consists of a packet containing two leaves and an inflorescence, accompanied by an original line drawing by F. Gagnepain.

6. **Pilea centradenoides** Seem., *Bot. voy. Herald* **4**: 194 (1854). Type: Panama, *Seemann* 1099 (BM!-holotype; F!, MO!-isotypes); Panama, San Blas, trail from Puerto Obaldía to La Bonga, tributary of the Río Armila, *c.* 2 hours walk from Puerto Obaldía, 8°40'N 77°25'W, 0–50 m, 17 April 1982, *Knapp & Mallet* 4672 (BM!-epitype, designated here; MO!-isoepitype).

Pilea trianaeana Wedd. in A.DC., *Prodr.* **16**(1): 121 (1869). Type: Colombia, *Triana* 887 (P!-lectotype, designated here; NY!-isolectotypes).

P. variegata Wedd. in A.DC., *Prodr.* **16**(1): 123 (1869), non Seemann (1854).

P. seemannii Killip in *Contr. U.S. Natl. Herb.* **26**: 382 (1936). Type: Colombia, *Triana* 888 (P!-holotype; BM!-isotype).

DISTRIBUTION. Panama, 0–1500 m; South America.

An epitype was selected for *Pilea centradenoides* because the specimen cited by Seemann as type is a sterile collection and therefore potentially ambiguous.

A specimen of *Triana* 887 at BM has had the collection number crudely altered from 885 to 887 in darker ink. This collection is therefore not recognized as an isotype of *Pilea trianaeana* Wedd. in this treatment.

The collection cited by Killip (1936) as the type of *Pilea seemanii* is numbered '888' at P and BM. However, there is some evidence (Killip, 1936; pers. obs.) that duplicate Triana collections distributed to other herbaria were either not numbered, or numbered differently. For example, Killip observed that the locality information is cited differently for the duplicate collections of *Triana* 888 and in the case of other Triana collections, collection numbers have been altered.

The combination *Pilea variegata* (Spreng.) Seem. was generated to account for one of Seemann's collections from Panama. The incorporation of *Urtica variegata* Spreng. into the genus *Pilea* by Seemann is generally accepted; however, the Seemann collection (*Seemann* 561, BM) does not correspond to the taxon described by Sprengel as *U. variegata* but to another species, *P. centradenoides*.

7. **Pilea chiapensis** Killip in *J. Wash. Acad. Sci.* **15**: 295 (1925). Type: Mexico, *Rovirosa* 938 (PH!-holotype).

Pilea caudata Killip in *J. Wash. Acad. Sci.* **15**: 295 (1925), non Winkler (1922). Type: Guatemala, *Cook & Griggs* 609 (US!-holotype).

DISTRIBUTION. Mexico (Tabasco and Chiapas), Belize and Guatemala, 600–1200 m.

8. **Pilea conjugalis** A.K. Monro in *Bull. nat. Hist. Mus. Lond. (Bot.)* **30**: 7 (2000). Type: Panama, *Pittier* 3230 (NY!-holotype).

DISTRIBUTION. Costa Rica and Panama, 1400–2200 m.

9. **Pilea cornmanae** Killip in *J. Wash. Acad. Sci.* **15**: 292 (1925). Type: Panama, *Killip* 3543 (US!-holotype).

DISTRIBUTION. Costa Rica and Panama, 1500–2000 m.

10. **Pilea cornuto-cucullata** Cufod. in *Arch. Bot. Sist.* **10**: 29 (1934). Type: Costa Rica, *Cufodontis* 292 (W†-holotype; F!-photograph ex W); Costa Rica, San José, along the trail from Canaán to Chirripó via Los Angeles, above (north of) the Río Talari, 9°30'N 83°32'W, 3100–3200 m, 24 August 1971, *Burger* 8326 (F!-neotype, designated here).

DISTRIBUTION. Costa Rica and Panama, 2900–3200 m.

The holotype has been destroyed and only a photograph of the type specimen could be traced. Since no duplicates of the holotype have been located, a neotype has been selected.

11. **Pilea corona** A.K. Monro in *Bull. nat. Hist. Mus. Lond. (Bot.)* **31**: 5 (2001). Type: Panama, *Antonio* 2043 (PMA!-holotype; MO!-isotype).

DISTRIBUTION. Panama (Chiriquí, Veraguas), 700–1200 m.

12. **Pilea costaricensis** Donn. Sm. in *Bot. Gaz.* **20**: 294 (1895). Type: Costa Rica, *Cooper* 5952 (US-799606!-holotype; US-799605!, K!-isotypes).

DISTRIBUTION. Costa Rica and Panama, 1000–1900 m.

13. **Pilea daguensis** Killip in *Contr. U.S. Natl. Herb.* **26**: 382 (1936). Type: Colombia, *Triana* 889 (P!-holotype; BM!-isotype).

Pilea deudrophila var. *major* Wedd. in A.DC. *Prodr.* **16**(1): 122 (1869). Type: Colombia, *Triana* 889 (P!-holotype).

DISTRIBUTION. Mexico (Chiapas), Panama, 100–1000 m; South America.

14. **Pilea dauciodora** Wedd. ex Pav. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 223 (1852). Type: Peru, *Pavón* s.n. (FI-W-holotype; BM!-photograph).

Pilea uncidens Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 224 (1852). Type: Bolivia, *Weddell* 4561 (P!-holotype).

P. dauciodora var. *uncidens* (Wedd.) Wedd. in A.DC., *Prodr.* **16**(1): 121 (1869).

DISTRIBUTION. Mexico (Chiapas), Guatemala, Honduras, El Salvador, Costa Rica, 1400–3300 m; South America.

15. **Pilea digitata** A.K. Monro in *Bull. nat. Hist. Mus. Lond. (Bot.)* **31**: 7 (2001). Type: Panama, *Hampshire & Whitefoord* 189 (PMA!-holotype; BM!, MO!-isotypes).

DISTRIBUTION. Panama (Bocas del Toro, Chiriquí, Coclé, and Darien), 700–1700 m.

16. **Pilea ecboliophylla** Donn. Sm. in *Bot. Gaz.* **46**: 115 (1908). Type: Guatemala, *von Tuerckheim* 7983 (US!-holotype; GH!, MO!, NY!-isotypes).

Pilea diversissima Killip in *Fieldiana, Bot.* **18**: 394 (1937). Type: Costa Rica, *Brenes* 4851 (F!-holotype; GH!, NY!-isotypes).

DISTRIBUTION. Mexico (Tabasco, Chiapas), Guatemala, Honduras, Nicaragua, Costa Rica and Panama, 0–1500 m; South America.

Pilea ecboliophylla closely resembles *P. rluizobola* Miq. from Brazil, and further study may place these names in synonymy, in which case *P. rluizobola* would have priority.

17. **Pilea falcata** Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.*, ser. 5, **2**: 304 (1851). Type: Mexico, *Liebmann* 14241 (C!-holotype; F!-isotype).

DISTRIBUTION. Although not known from Mesoamerica, the type collection is from the neighbouring state of Oaxaca and this species is expected to occur in Chiapas. Breedlove (1986: 191) recorded *Pilea falcata* for Chiapas, but the determinations of the collections on which this record is based are erroneous.

18. **Pilea fasciata** Wedd. in A.DC., *Prodr.* **16**(1): 149 (1869). Type: Colombia, *Triana* s.n. (P!-holotype; BM!-isotype).

DISTRIBUTION. Costa Rica, Panama, 0–1300 m; South America.

19. **Pilea forgeti** N.E. Br. in *Bot. Mag.* **13**: t. 8699 (1917). Type: material grown from seed collected by Forget in Venezuela, *Brown* s.n. 'June 4, 1914' (K!-lectotype, designated here).

DISTRIBUTION. Panama, 0–900 m, South America.

Collections of *Pilea forgeti* are often incorrectly determined as *P. fasciata* Wedd.

The lectotype, although not cited in the original protologue, was determined and annotated by Brown: '*Type specimen!*'.

20. **Pilea glabra** S. Watson in *Proc. Amer. Acad. Arts* **26**: 152 (1891). Type: Mexico, *Pringle* 3550 (GH!-holotype; K!-isotype).

Pilea tuerckheimii Donn. Sm. in *Bot. Gaz.* **46**: 116 (1908). Type: Guatemala, *von Tuerckheim* 1835 (US!-holotype; NY!-isotype).

DISTRIBUTION. Mexico (San Luis Potosi, Veracruz and Chiapas), Belize, Guatemala, Honduras, Nicaragua and Costa Rica, 200–1900 m.

21. **Pilea gomeziana** W.C. Burger in *Phytologia* **31**: 269 (1975). Type: Costa Rica, *Gómez P.* 3304 (F!-holotype; CR, MO!, NY!, US-isotypes).

DISTRIBUTION. Costa Rica (Cocos Island), altitude unknown.

22. **Pilea herniarioides** (Sw.) Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 207 (1852). *Urtica herniarioides* Sw. in *Kongl. Vetensk. Acad. Nya Handl.* **8**: 64 (1787). Type: Hispaniola, *Swartz* s.n. (S-holotype; BM!-isotype).

Pilea deltoidea Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 302 (1851). Type: Costa Rica, *Oersted* 14240 '11/46' (C!-holotype).

P. microphylla var. *peregrina* Griseb., *Pl. wright.*: 173 (1860). Type: Cuba, 1860–1864, *Wright* 1458 (B†-holotype; BM!-lectotype, designated here; K!, MO!, P!-isolectotypes).

P. brittoniae Urb., *Symb. antill.* **5**: 528 (1908). Type: Jamaica, vicinity of Cinchona, Point Heberu's Gap to Marc's Gap, 2–10 September 1906, *Britton* 95 (B†-holotype; BM!-lectotype, designated here; K!, MO!, NY!-isolectotypes).

P. herniarioides var. *peregrina* (Griseb.) Urb. in *Ark. Bot.* **23A**(5): 48 (1930).

P. peregrina (Griseb.) Grudz. & P. Herrera in *Novosti Sist. Vyssh. Nizsh. Rast.* **23**: 52 (1986).

DISTRIBUTION. El Salvador, Costa Rica and Panama, 600–1000 m; West Indies.

Commonly grown as an ornamental in gardens and probably present throughout Central America.

Pilea peregrina was apparently spelled incorrectly as 'perexigua' when the combination was published by Grudzinskaja & Herrera (1986). This would appear to be based on Urban's (1930) re-spelling of the epiphet in his recombination of Grisebach's variety as *P. microphylla* var. *perexigua* (Griseb.) Urb. A reason for changing Grisebach's epiphet is not given in either publication and the original name is used here.

23. **Pilea hyalina** Fenzl in *Denkschr. Kaiserl. Akad. Wiss., Math. - Naturwiss. Kl.* **1**: 256 (1850). Type: Peru, *Poeppig* s.n. 'Peruvia subandina prope Cuchero ad fossas cultorum, Dec. 1829' (C!-lectotype, designated here).

Pilea lundii Liebm. in *Kongel. Danske Vidensk.Selsk. Skr., Naturvidensk. Math. Afd.*, ser. 5, **2**: 299 (1851). Type: Brazil, *Lund* s.n. (C!-lectotype, designated here).

P. scrobiculata Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.*, ser. 5, **2**: 300 (1851). Type: Mexico, *Liebmann* s.n. '14254' (C!-holotype).

DISTRIBUTION. Mexico (Chiapas), Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama, 0–1600 m; South America.

24. **Pilea imparifolia** Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 212 (1852). Type: French Guiana, 1845, *Mélinon* 123 (P!-lectotype, designated here).

Pilea dendrophila Miq. in Mart., *Fl. Brasil.* **12**: 202 (1853). Type: Brazil 'Solimoês fluvium, Rio Negro', *Martius* s.n. (M!-holotype).

DISTRIBUTION. Costa Rica and Panama, 100–1600 m; South America.

25. **Pilea involucrata** (Sims) Urb., *Symb. antill.* **1**: 298 (1899). *Urtica involucrata* Sims in *Bot. Mag.* **51**: t. 2481 (1824). Holotype: Sims, *Bot. Mag.* 51: t. 2481 (1824); St. Vincent, *Anderson* s.n. 'purchased 1853' (K!-epitype, designated here).

Pilea chrysosplenoides Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 209 (1852). Type: Colombia 'près Fusaguasuga, 1844', *Goudot* s.n. (P!-holotype).

P. ovalis Griseb., *Fl. Brit. W. I.*: 159 (1859). Type: Trinidad, *Gaspari* s.n. (K!-lectotype, designated here).

DISTRIBUTION. Costa Rica and Panama, 100–1300 m; West Indies, South America.

Sims provided only an illustration as a type element and no other type elements were traced at K. Because of the ambiguous nature of the illustration it is felt that the designation of an epitype is appropriate.

26. **Pilea irrorata** Donn. Sm. in *Bot. Gaz.* **19**: 11 (1894). Type: Guatemala, *Smith* 2751 (US!-holotype).

DISTRIBUTION. Mexico (Oaxaca, Veracruz, Chiapas) and Guatemala, 0–2000 m.

27. **Pilea killipiana** Standl. & Steyerm. in *Fieldiana, Bot.* **24**: 415 (1952). Type: Guatemala, *Steyermark* 44700 (F!-holotype; NY!, US!-isotypes).

DISTRIBUTION. Mexico (Chiapas), Guatemala, 300–500 m.

28. **Pilea latifolia** Wedd. in *Arch. Mus. Hist. Nat.* **9**: 249 (1856). Type: Colombia, Ocana, 3000 ft, '3000 Ps' [annotation by Schlim], June 1846–1852, *Schlim* 701 (P!-lectotype, designated here).

DISTRIBUTION. Panama (Darien, Panamá), 400–1700 m; South America.

Label information for the type collection indicates that this is a mixed collection. Each sheet has a different altitude indicated and therefore should be considered as a distinct collection, although all sheets have the same collection number and handwriting.

29. **Pilea lindeniana** Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 210 (1852). Type: Colombia, *Linden* 799 (P!-holotype; BM!, K!-isotypes).

DISTRIBUTION. Panama (province unknown), 2000–2800 m; South America.

30. **Pilea magnicarpa** A.K. Monro in *Novon* **9**: 398 (1999). Type: Panama, *Hammel* 2424 (MO!-holotype; NY!-isotype).

DISTRIBUTION. Panama (Coclé, San Blas), 400–1400 m.

31. **Pilea mexicana** Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 214 (1852). Type: Mexico, *Linden* 651 (P!-holotype).

Pilea quichensis Donn. Sm. in *Bot. Gaz.* **19**: 12 (1894). Type: Guatemala, *Heyde & Lux* 3147 (US-holotype; K!-isotype).

DISTRIBUTION. Mexico (Veracruz, Chiapas) and Guatemala, 1200–2100 m.

32. **Pilea microphylla** (L.) Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 296 (1851). *Parietaria microphylla* L., *Syst. nat.* 10th ed.: 1308 (1759). Type: Jamaica?, LINN-1220.8 (LINN!-lectotype, designated by De Rooij, 1975).

Urtica serpyllacea Kunth in Humb., Bonpl. & Kunth, *Nov. gen. sp.* **2**: 37 (1817). Type: Equatorial America, *Bonpland* 2143 (P!-holotype).

Pilea muscosa Lindl., *Coll. bot.*: t. **4** (1821), nom. superfl.

P. serpyllacea (Kunth) Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 296 (1851).

P. portula Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 297 (1851). Type: Costa Rica, 'Aguacate', *Oersted* s.n (C!-holotype).

DISTRIBUTION. Mexico (Tabasco, Chiapas, Yucatán, Campeche, Quintana Roo), Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica , Panama, 0–2400 m; North America, Greater Antilles, Leeward Islands, Windward Islands, South America.

This species is cultivated worldwide as an ornamental.

The lectotype of *Pilea microphylla* is a Patrick Browne specimen, almost certainly collected in Jamaica, and probably purchased by Linnaeus in 1758 (Savage, 1945). In addition Linnaeus refers to Sloane's *Voy. Jamaica* (1707) in his original description.

33. **Pilea nummulariifolia** (Sw.) Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 225 (1852). *Urtica nummulariifolia* Sw. in *Kongl. Vetensk. Acad. Nya Handl.* **8**: 63 (1787). Holotype: *Kongl. Vetensk. Acad. Nya Handl.* **8**: t.1, f. 2 (1787); Jamaica, *Swartz* s.n. 'Herb. Alströmer' (S!-epitype, designated here).

DISTRIBUTION. Guatemala, Honduras, El Salvador, Costa Rica and Panama, 0–1500 m; Greater Antilles, South America.

This species is frequently used as an ornamental in gardens.

The type for *Pilea nummulariifolia* is an illustration which was felt to be ambiguous in view of the large number of neotropical *Pilea* species, and an epitype is selected from amongst Swartz's Jamaican collections.

34. **Pilea pallida** Killip in *J. Wash. Acad. Sci.* **15**: 295 (1925). Type: Panama, *Rowlee & Rowlee* 376 (US!-holotype).

DISTRIBUTION. Costa Rica and Panama, 0–1200 m.

35. **Pilea pansamalana** Donn. Sm. in *Bot. Gaz.* **19**: 10 (1894). Type: Guatemala, *von Tuerckheim* 939 (US-holotype; B†, GH!, NY!, P!-isotypes).

DISTRIBUTION. Mexico (Chiapas) and Guatemala, 800–2600 m.

36. **Pilea parietaria** (L.) Blume, *Mus. bot.* **2**: 48 (1856). *Urtica parietaria* L., *Sp. pl.*: 985 (1753). Lectotype: Sloane, *Voy. Jamaica* **1**: t. 93, f. 1 (1707), designated by Kellogg, 1988.

Urtica ciliaris L., *Syst. nat.* 10th ed.: 1266 (1759). Lectotype: Plumier, *Pl. amer.*: t. 120, f. 2 (1757), designated by Kellogg, 1988.

U. rhombea L.f., *Suppl. pl.*: 417 (1782). Type: Mexico, LINN-1111.25 (LINN!-holotype).

Pilea integrifolia Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 298 (1851). Type: Mexico, *Liebmann* 14339 '2' (C!-holotype).

P. rhombea (L.f.) Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 305 (1851).

P. ciliaris (L.) Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 209 (1852).

P. rubiifolia Blume, *Mus. bot.* **2**: 49 (1856). Type: Guatemala, Alta Verapaz Department, Rubeleruz, 3000 ft, May 1887, *von Tuerckheim* 1270 (F!-neotype, designated here; P!- isoneotype).

DISTRIBUTION. Mexico (Chiapas, Yucatán), Guatemala, Honduras, Nicaragua, Costa Rica and Panama, 300–2000 m; Greater Antilles, Leeward Islands.

A neotype is selected for *Pilea rubiifolia* because Blume did not explicitly cite any type material in his protologue. His citation '– *Yantencillo* incolar.– In Guatemalâ ad rivos.', implies that he saw a collection. However, no type material could be located at BM, L or P and it was therefore decided to select a neotype. Standley & Steyermark (1952: 418) erroneously cited *von Tuerckheim 1270* as the type collection.

The lectotype of *Pilea parietaria* (L.) Blume is an illustration based on a typotype collection made by Sloane in Jamaica: Herb. Sloane Vol. 2: 120, BM-SL!

37. **Pilea pittieri** Killip in *J. Wash. Acad. Sci.* **15**: 298 (1925). Type: Costa Rica, *Pittier* 14149 (US-1080422!-holotype; US-577992!-isotype).

Pilea phenacoides Killip in *Fieldiana, Bot.* **18**: 1548 (1938). Type: Costa Rica, *Smith* A443 (US!-holotype; F!-isotype).

DISTRIBUTION. Costa Rica (Alajuela, Cartago, Heredia, Limón, Puntarenas, San José), 600–2300 m.

38. **Pilea pleuroneura** Donn. Sm. in *Bot. Gaz.* **19**: 12 (1894). Type: Guatemala, *von Tuerckheim* 754 (US-holotype; GH!, NY!, P!-isotypes).

DISTRIBUTION. Mexico (Chiapas) and Guatemala, (300–)1200–4000 m.

39. **Pilea plumulosa** A.K. Monro in *Novon* **9**: 392 (1999). Type: Panama, *Kirkbride & Duke* 944 (NY!-holotype; MO-2090983!, MO-2605434!-isotypes).

DISTRIBUTION. Panama (Bocas del Toro-Chiriquí border), 2500 m.

40. **Pilea pteridophylla** A.K. Monro in *Novon* **9**: 390 (1999). Type: Mexico, *Hanan A.* 438 (MEXU!-holotype).

DISTRIBUTION. Mexico (Tabasco), 600 m.

A number of collections from Veracruz (*Wendt* et al. 4877 & 3912) and Oaxaca (*Wendt* et al. 2538) closely resemble *Pilea pteridophylla*, but differ in the presence of equal-sized leaves at each node. Further study is needed to decide whether these collections represent a new taxon.

41. **Pilea pteropodon** Wedd. in A.DC., *Prodr.* **16**(1): 144 (1869). Type: Colombia, *Triana* s.n. (P!-holotype; BM!-isotype).

Pilea ptericlada Donn. Sm. in *Bot. Gaz.* **31**: 121 (1901). Type: Costa Rica, Cartago, Atirro, 600 m, April 1896, *Smith* 6779 (US!-lectotype, designated here).

DISTRIBUTION. Costa Rica and Panama, 0–2000 m; South America.

This species closely resembles *Pilea verbascifolia* (Poir.) Wedd., endemic to the Mauritius Islands.

42. **Pilea pubescens** Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 303 (1851). Type: Brazil, *Lund* s.n. '1' (C!-lectotype, designated here).

Pilea fuscata Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 300 (1851). Type: Mexico, *Liebmann* s.n. (C-holotype; GH!, P!-isotypes).

P. rupicola Wedd. in *Ann. Sci. Nat., Bot.* sér. 3, **18**: 224 (1852). Type: Mexico, Tabasco, Teapa, December, *Linden* 71 (FI-W-lectotype, designated here; BM!-photograph).

DISTRIBUTION. Mexico (Tabasco, Chiapas), Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama, 0–3000 m; South America.

This species is frequently grown as a garden ornamental throughout the neotropics.

In his original description of *Pilea rupicola,* Weddell cites a collection by Linden which he saw at P. This collection could not be traced on a visit there in 1999.

43. **Pilea purulensis** Donn. Sm. in *Bot. Gaz.* **46**: 115 (1908). Type: Guatemala, *von Tuerckheim* 1707 (US-holotype; BM!, C!, F!, GH!, NY!-isotypes).

Pilea chiriquina Killip in *J. Wash. Acad. Sci.* **15**: 291 (1925). Type: Panama, *Killip* 3546 (US!-holotype).

P. donnell-smithiana Killip in *J. Wash. Acad. Sci.* **15**: 292 (1925). Type: Costa Rica, *Donnell Smith* 7467 (US!-holotype; GH!-isotype).

DISTRIBUTION. Costa Rica and Panama, 1000–2100 m; South America.

44. **Pilea quadrata** A.K. Monro in *Novon* **9**: 395 (1999). Type: Panama, *Antonio* 1345 (MO!-holotype).

DISTRIBUTION. Panama (Panama, Colón), 200–500 m.

45. **Pilea quercifolia** Killip in *Phytologia* **1**: 146 (1935). Type: Guatemala, *Skutch* 559 (US!-holotype; GH!-isotype).

DISTRIBUTION. Mexico (Chiapas) and Guatemala, 1300–2400 m.

46. **Pilea riparia** Donn. Sm. in *Bot. Gaz.* **19**: 11 (1894). Type: Guatemala, *von Tuerckheim* 1040 (F-holotype; GH!, NY!, P!-isotypes).

DISTRIBUTION. Guatemala (Alta Verapaz, Baja Verapaz), *c.* 1000 m.

47. **Pilea rostulata** A.K. Monro in *Novon* **9**: 395 (1999). Type: Panama, *Antonio* 1237 (BM!-holotype; MO!-isotype).

DISTRIBUTION. Panama (Colón), 0–400 m.

48. **Pilea rugosissima** Killip in *Proc. Biol. Soc. Wash.* **52**: 28 (1939). Type: Panama, *Davidson* 335 (F!-holotype; GH!–isotype).

DISTRIBUTION. Panama (Chiriquí, Bocas del Toro), 1800–2500 m.

A collection from Chiriquí, *Knapp* 1622 (MO), is unusual in its small stature and epiphytic habit.

49. **Pilea senarifolia** Donn. Sm. in *Bot. Gaz.* **19**: 12 (1894). Type: Guatemala, *Heyde & Lux* 3145 (F-holotype; GH!, MO!, NY!-isotypes).

DISTRIBUTION. Mexico (Chiapas) and Guatemala, *c.* 2400 m.

50. **Pilea skutchii** Killip in *Fieldiana, Bot.* **24**: 421 (1952). Type: Guatemala, *Skutch* 974 (US!-holotype; GH!-isotype).

DISTRIBUTION. Mexico (Chiapas), Guatemala, 1400–2700 m; South America.

51. **Pilea tilarana** W.C. Burger in *Phytologia* **31**: 270 (1975). Type: Costa Rica, *Standley & Valerio* 44753 (US!-holotype).

DISTRIBUTION. Costa Rica (Alajuela), 600–1000 m.

52. **Pilea trichomanophylla** A.K. Monro in *Bull. nat.Hist. Mus. Lond. (Bot.)* **30**: 9 (2000). Type: Panama, *Hammel* et al. 14646 (MO!-holotype).

DISTRIBUTION. Panama (Chiriquí), *c.* 1300 m.

53. **Pilea tridentata** Killip in *J. Wash. Acad. Sci.* **15**: 290 (1925). Type: Guatemala, *von Tuerckheim* 2011 (US-holotype; C!, F!, GH!, MO!, NY!-isotypes).

Pilea mimema Standl. & Steyerm. in *Fieldiana, Bot.* **24**: 417 (1952). Type: Guatemala, *Hatch & Wilson* 162 (F!-holotype).

DISTRIBUTION. Mexico (Oaxaca, Chiapas), Guatemala, (300) 1200–1600 m.

54. **Pilea tripartita** A.K. Monro in *Novon* **9**: 393 (1999). Type: Costa Rica, *Burger & Liesner* 6330 (MO!-holotype; CR!, NY!, US!-isotypes).

DISTRIBUTION. Costa Rica, Panama, 2500–3200 m.

55. **Pilea tutensis** A.K. Monro in *Novon* **9**: 397 (1999). Type: Panama, *Antonio* 1845 (MEXU!-holotype; MO!, NY!-isotypes).

DISTRIBUTION. Panama (Veraguas), 900–1600 m.

56. **Pilea vulcanica** Liebm. in *Kongel. Danske Vidensk. Selsk. Skr., Naturvidensk. Math. Afd.* ser. 5, **2**: 303 (1851). Type: Mexico, Veracruz, Riço de Orizaba, Vaqueria del Pacal, 300 m, September 1841, *Liebmann* 14256 '2' (C!-lectotype, designated here).

Pilea standleyi Killip in *J. Wash. Acad. Sci.* **15**: 294 (1925). Type: Costa Rica, *Standley* 38697 (US!-holotype).

P. gracilipes Killip in *J. Wash. Acad. Sci.* **15**: 298 (1925). Type: Costa Rica, *Maxon* 5426 (US-holotype; F!-isotype).

DISTRIBUTION. Mexico (Chiapas), Guatemala, Honduras, El Salvador, Costa Rica and Panama, 1300–3000(4500) m; South America.

The species epithet was incorrectly spelled as '*vulcania*' when first published.

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MATERIAL EXAMINED

Aguilar, R. 26, *irrorata* (F); 323, *hyalina* (F); 500, *dauciodora* (F); 1103, *senarifolia* (F); 1486, *hyalina* (F).
Aguilar, R. & Schmidt, H. 1128, *pteropodon* (MO).
Allen, P.H. 84, *herniariioides* (F); 1737, *acuminata* (F, MO, NY); 4825, *purulensis* (BM, US); 4914, *purulensis* (BM, P, US).
Alston, A.H.G. 8781, *pubescens* (BM); 8786, *centradenoides* (BM); 8791, *imparifolia* (BM, P, US); 8792, *acuminata* (US); 8797, *pallida* (BM).
Amador M., J. et al. 1829, *microphylla* (MEXU).
Anderson, A. s.n 'purchased 1853', *involucrata* (K).
Anderson, R.C. & Mori, S. 282, *glabra* (BM, F).
Anon. '877', *lindeniana* (NY); 11863 'August 1, 1925', *involucrata* (K); s.n., *cadierei* (P).
Antonio, T. 850, *microphylla* (F); 863, *acuminata* (F); 1028, *vulcanica* (BM); 1237, *rostulata* (BM, MO); 1344, *parietaria* (MEXU, MO); 1345, quadrata (MO); 1347, *forgeti* (MO); 1348a, *pteropodon* (MO); 1348b, *pteropodon* (MO); 1522, *pubescens* (NY); 1605, *auriculata* (BM, MO); 1645, *vulcanica* (MO); 1650, *auriculata* (BM, MO); 1845, *tutensis* (MEXU, MO, NY); 2010, *adamsiana* (MO); 2014, *adamsiana* (MO); 2043, *corona* (MO, PMA); 2044, *pteropodon* (BM, MO); 2124, *fasciata* (BM, MO); 2180, *magnicarpa* (MO); 2550, *magnicarpa* (BM, MO); 2610, *purulensis* (BM); 2638, *conjugalis* (MO); 2639, *auriculata* (BM); 2641, *rugosissima* (BM, MO); 2671, *purulensis* (BM, MO); 2767, *magnicarpa* (MO); 2799, *purulensis* (MO); 2833, *digitata* (MO); 2976, *tutensis* (MO); 2984, *corona* (MO); 2986, *pteropodon* (MO); 3035, *magnicarpa* (MO); 3196, *parietaria* (MO); 3441, *pubescens* (MO); 3486, *tutensis* (MO); 3508, *purulensis* (BM, MO); 3537, *corona* (MO); 3994, *pubescens* (MO); 4043, *corona* (MO); 4162, *digitata* (MO); 4163, *digitata* (BM, MO); 4768, *daguensis* (BM, LL); 4769, *daguensis* (MEXU, MO); 4778, *rostulata* (MO); 4779, *rostulata* (MO); 4890, *cornmanae* (MO); 4936, *imparifolia* (BM, MO); 4982, *pubescens* (MO); 5106, *purulensis* (MO).
Antonio, T. & Lent, R. 794, *parietaria* (F).
Apú, B. 130, *auriculata* (MO).
Araquistain, M. 45, *pubescens* (MO); 308, *microphylla* (MO).
Atwood, C. 1279, *microphylla* (NY); 4065, *hyalina* (MO).
Atwood, C. & Neill, D. 102, *pubescens* (MO).
Baker, R. & Burger, W.C. 15, *microphylla* (F); 133, *pteropodon* (F, NY).
Barbey, M.A. 7179, *hyalina* (NY).
Barkley, F.A. & Hernandez M., R. 40192, *microphylla* (GH); 40451, *microphylla* (GH).
Barkley, F.A. & Nickle 40792, *glabra* (GH).
Barkley, F.A. et al. 2522, *pubescens* (F); 2613 (F), *microphylla* (F).
Barringer, K. 3187, *parietaria* (F).
Barringer, K. & Christenson, E. 3379, *conjugalis* (F); 3449, *conjugalis* (LL); 4142, *conjugalis* (LL).
Barringer, K. & Gómez-Laurito, J. 2514, *pittieri* (F).
Barringer, K. & Huft, M. 2778, *auriculata* (LL).
Barringer, K. & Perez G., M. 3762, *imparifolia* (F, LL); 3787, *ecboliophylla* (LL); 3816, *pteropodon* (F, LL); 3839, *ecboliophylla* (LL).
Barringer, K. et al. 3555, *pteropodon* (F); 3948, *pteropodon* (LL); 4106, *ecboliophylla* (LL).

Bartlett, H.H. & Lasser, T. 16801, *microphylla* (MO).
Beaman, J. 4001, *dauciodora* (GH, TEX).
Bechyne & Bohumila 3928, *dauciodora* (ITIC).
Bello, E. 3028, *parietaria* (MO); 3077, *vulcanica* (MO).
Bemudez 42, *microphylla* (ITIC).
Bequaert, J. 24, *irrorata* (F, GH).
Berendsohn, W. & Berendsohn 1145, *dauciodora* (BM, LAGU).
Blackmore, S. & Heath, G.L.A. 1945, *glabra* (BM).
Blum, K.E. & Tyson, E.L. 534 (MO), *involucrata* (MO).
Bonpland, A.J.A. 255, *microphylla* (P); 2143, *microphylla* (P).
Botteri, M. 19, *mexicana* (GH); 283, *hyalina* (P); 284, *pubescens* (BM, P); 285, *pubescens* (P); 286, *hyalina* (BM, P); 539, *acuminata* (BM); 541, aff. *glabra* (BM, P); 1508, *acuminata* (P); 1513, *pubescens* (P); s.n., *pubescens* (P).
Bourgeau, E. 1705, *microphylla* (P); 2463, cf. *pubescens* (P); 3251, *mexicana* (K, P); s.n., *hyalina* (P); s.n., *pubescens* (P); s.n., *pubescens* (P).
Boyle, B. & Boyle, A. 727, *purulensis* (BM).
Breckon, G. & Breckon 2237, *pubescens* (F, MEXU, MO).
Breedlove, D.E. 6182, *microphylla* (F); 6233, *pubescens* (F, LL); 6235, *irrorata* (F); 6962, *microphylla* (F); 6991, *irrorata* (F); 7461, *glabra* (F); 7498, *microphylla* (F); 7828, *dauciodora* (F); 10737, *parietaria* (F); 10738, *irrorata* (F, LL); 11083, *irrorata* (F, LL); 11084, *glabra* (F); 11129, *dauciodora* (F, LL); 11620, *dauciodora* (F, LL); 11999, *pubescens* (F, LL, US); 12000, *pansamalana* (F); 14371, *dauciodora* (MEXU); 14892, *pubescens* (F, LL, MEXU); 15114, *dauciodora* (LL, MEXU); 15305, *dauciodora* (LL, MEXU, NY); 15398, *mexicana* (F, NY); 20264, *pubescens* (LL, MO); 20317, *microphylla* (MO); 25768, *dauciodora* (MEXU, MO); 26055, *pubescens* (MO); 26070, *daguensis* (MO, NY); 26084, *irrorata* (MO); 26259, *dauciodora* (LL, MO); 26364, *microphylla* (MO); 26755, *irrorata* (MEXU); 28146, *pubescens* (LL, MO); 28978, *microphylla* (MO); 29002, *microphylla* (MEXU); 29139, *glabra* (F, LL, MO, NY); 29180, *pubescens* (MEXU, MO, NY); 29472, *dauciodora* (LL, MO); 34594, *mexicana* (MEXU, MO); 34839, *vulcanica* (MEXU, MO); 34875, *chiapensis* (MEXU, MO); 35301, *ecboliophylla* (MEXU); 35384, *killipiana* (MEXU); 36913, *pubescens* (MEXU); 37670, *microphylla* (MEXU); 38186, *pubescens* (MEXU); 40074, *microphylla* (MEXU); 40133, *hyalina* (MO); 40459, *dauciodora* (MEXU, MO).
Breedlove, D.E. & Thorne, R.H. 21209, *pansamalana* (MEXU, TEX).
Brenes, A.M. 14?, *microphylla* (NY); 1906?, *parietaria* (NY); 1937, *hyalina* (NY); 3498, *auriculata* (F); 3500, *auriculata* (NY); 3714, *auriculata* (F, NY); 3764, *angustifolia* (F); 3786, *ecboliophylla* (F); 4001, *angustifolia* (F, NY); 4010, *ecboliophylla* (F, NY); 4527, *tilarana* (F); 4831, *ecboliophylla* (NY); 4851, *ecboliophylla* (F, GH, NY); 6062, *acuminata* (F); 6107, *pteropodon* (F, NY); 6115, *pteropodon* (F, NY); 12662, *glabra* (F); 13198, *ecboliophylla* (F); 13511, *ecboliophylla* (F, NY); 14459, *pubescens* (BM, GH, NY, US); 14651a, *parietaria* (NY); 15663, *pubescens* (F); 15664, *imparifolia* (F, NY); 15664a, *imparifolia* (NY); 15665, *ecboliophylla* (F, NY); 15676, *imparifolia* (F, NY); 16142, *pubescens* (F, NY); 19217, *pubescens* (F, NY); 20520, *tilarana* (F); 22621, *pubescens* (F); 22636, *pubescens* (NY); 23106, *hyalina* (NY).
Brett, J. 342, *pubescens* (TEX); 694, *glabra* (TEX).
Bristan, N. 474, *digitata* (GH); 1043(3), *microphylla* (MO); 1066(2), *pubescens* (MO).
Britton 95, *herniarioides* (BM, K, MO, NY).
Brown, S. s.n. 'June 4, 1914', *forgeti* (K).
Bunting, G.S. & Licht 1019, *glabra* (NY, US).
Burger, W.C. 3240, *acuminata* (F, NY); 3858, *microphylla* (F, MEXU); 4148, *acuminata* (F); 7977, *auriculata* (F); 8326, *cornuto-cucullata* (F).
Burger, W.C. & Antonio, T. 10931, *microphylla* (BM, F).
Burger, W.C. & Baker, R. 9493, *auriculata* (F); 9726, *auriculata* (F).
Burger, W.C. & Barringer, K. 11616, *pubescens* (F).
Burger, W.C. & Burger, M. 7568, *conjugalis* (BM, F); 7594, *costaricensis* (MO); 7598, *costaricensis* (F); 7665, *parietaria* (F); 7668, *parietaria* (F); 7681, *vulcanica* (F); 7684, *vulcanica* (MO, NY); 7686, *vulcanica* (F, MEXU); 7711, *parietaria* (F, MO, NY); 7991, *parietaria* (F, MO); 8159, *parietaria* (F); 8175, *parietaria* (F, MEXU); 8183, *parietaria* (F).
Burger, W.C. & Gentry, J.L. 8360A, *pittieri* (F); 8501, *costaricensis* (F); 8506, *purulensis* (F, MO, NY); 8509, *pittieri* (F); 8510, *auriculata* (F); 8519, *auriculata* (F, NY); 8552, *pteropodon* (MEXU); 8630, *auriculata* (F); 8674, *pubescens* (F, MO, NY); 8697, *pittieri* (F); 8698, *angustifolia* (MO, NY); 8838, *pallida* (F, MO, NY); 8842, *pallida* (F); 8888, *pallida* (BM, F); 8914, *pallida* (MO, NY); 9029, *conjugalis* (F, MEXU, NY); 9069, *costaricensis* (BM); 9070B, *pittieri* (F); 9070E, *pittieri* (F); 9083, *imparifolia* (F); 9192, *conjugalis* (F); 9194, *costaricensis* (F); 9239, *pteropodon* (F, MO, NY); 9293, *ecboliophylla* (F, MO); 9295, *pteropodon* (F).
Burger, W.C. & Gómez-Laurito, J. 8252, *cornuto-cucullata* (F); 8359, *cornuto-cucullata* (F); 8381, *vulcanica* (F); 8387, *angustifolia* (F).
Burger, W.C. & Liesner, R. 6288A, *pittieri* (F); 6330, *tripartita* (CR, MO, NY, US); 6395, *auriculata* (BM); 6434, *auriculata* (F, MO, NY); 6509, *tripartita* (F, MEXU); 6709, *microphylla* (F); 6799, *conjugalis* (F, MO); 6805, *auriculata* (NY); 6966, *microphylla* (F, MO, NY); 7489, *cornuto-cucullata* (F).
Burger, W. C. & Stolze, R., 4902A, *pteropodon* (F); 4902B, *pteropodon* (F); 4989, *ecboliophylla* (F); 5010, *ecboliophylla* (MO); 5249, *auriculata* (F, NY); 5448, *pallida* (F); 5652, *pittieri* (MO, NY); 5657, *pittieri* (F); 5662, *costaricensis* (MEXU); 5715, *conjugalis* (F); 6077, *dauciodora* (F, MO).
Burger, W.C. & Visconti, G. 10210, *purulensis* (MEXU, MO); 10228, *pittieri* (F).
Burger, W.C. et al. 9396, *purulensis* (F); 9415, *acuminata* (F, MEXU); 10240, *vulcanica* (NY); 10244, *conjugalis* (F, MO); 10263, *pittieri* (F); 10301, *pteropodon* (F); 10383, indet. (F, MO); 10491, *ecboliophylla* (F, NY); 10754, *pittieri* (F, MEXU, MO, NY); 10789, *pittieri* (F); 10803, *angustifolia* (F); 10809, *vulcanica* (F); 11419, *auriculata* (F); 11908, *imparifolia* (F); 14088, cf. *centradenoides* (F, MO, NY).
Cabrera, E. & de Cabrera, H. 10785, *microphylla* (TEX).
Caec & Seler, G. 2516, *pubescens* (NY).
Calderón, S. 572, *microphylla* (GH, NY); 1412, *microphylla* (BM).
Calzada, J.I. 981, *hyalina* (F).
Campos V., A. 2615, *pubescens* (BM).
Carlson, M.C. 182, *microphylla* (F); 2130, *pleuroneura* (F); 3319, *microphylla* (F).
Carvajal, A. 151, *pittieri* (MO).
Castro, D. 2234, *microphylla* (MO).
Cedillo T., R. & Torres C., R. 1903, *tridentata* (MEXU, MO).
Chacón, A. 247, *pallida* (BM); 545, *vulcanica* (BM).
Chavarría, U. 29, *microphylla* (ITIC); 197, *microphylla* (MO).
Chavarría, U. et al. 28, *ecboliophylla* (BM).
Chinchilla, F. & Sandoval 275, *microphylla* (B, F, LAGU).
Chorley, M. 208, *hyalina* (BM); 316, *dauciodora* (BM).
Chorley, M. & Atkinson, R. 82, *hyalina* (BM).
Chrysler 5520a, *pubescens* (F).
Churchill, H.W. & Churchill, A. 6047, *purulensis* (MO).
Churchill, H.W. et al. 4694, indet. (MO).
Churchill, S. 5746, *purulensis* (BM).
del Cid 1790, *herniarioides* (ITIC).
Clare, T. 118, *cadierei* (MO).
Clark, O.M. et al. 3967, *pansamalana* (TEX).
Clarke, O.F. 271, *irrorata* (LL, NY); 345, *mexicana* (NY).
Clewell, A. & Hazlett, D. 3935, *hyalina* (MO, US).
Contreras, E. 200, *parietaria* (LL); 243, *microphylla* (LL); 1139, *microphylla* (LL); 1195, *microphylla* (LL); 2173, *pubescens* (LL); 2939, *senarifolia* (LL); 4778, *pansamalana* (LL); 5259, *microphylla* (LL); 5646, *microphylla* (F); 6222, cf. *pubescens* (LL); 6590, *glabra* (LL); 7091, *pansamalana* (LL); 7850, *pubescens* (LL); 10895, *purulensis* (LL, MEXU, MO); 11227, *purulensis* (LL, MO).
Cook, O.F. & Doyle 181, *angustifolia* (US).
Cook & Griggs 609, *chiapensis* (US).
Cooper, G. 73, *hyalina* (NY).
Cooper, G.P. 546, *acuminata* (US); 577, *acuminata* (US).
Cooper, J.J. 5948, *parietaria* (GH); 5950, *vulcanica* (GH); 5952, *costaricensis* (K, US); s.n., *hyalina* (F).
Correa A. & Dressler, R. 884, *daguensis* (F, MO); 886, *forgeti* (MO).
Correa A. et al. 2627, *pubescens* (F, NY); 2812, *purulensis* (MO).
Cosson 25, *microphylla* (P).
Cowan, C.P. & Magaña A. 3142, *ecboliophylla* (MEXU, NY).
Cowan, C.P. et al. 3978 (TEX), *pteridophylla* (TEX).
Cowell, J.F. 258, *microphylla* (NY); 282, *microphylla* (NY).
Crawford 574, *involucrata* (NY).
Croat, T.B. 991, *pubescens* (MO); 10572, *parietaria* (GH, MO); 14298, *centradenoides* (MO); 15790, *purulensis* (GH); 16185, *microphylla* (MO);

22383, *conjugalis* (GH); 22920, *centradenoides* (GH); 23830, *microphylla* (MO); 24316, *microphylla* (MO); 24519, *microphylla* (MO); 26267, *parietaria* (MO); 27378, *pteropodon* (MO); 27556, *purulensis* (US); 27768, *imparifolia* (MO, US); 27776, *pteropodon* (MO); 34207, *corona* (MO); 34865, *cornuto-cucullata* (MO); 34892, *pubescens* (MO); 35271, *imparifolia* (MO); 35279, *pteropodon* (MO, US); 35469, *parietaria* (MO); 35514, *parietaria* (MO); 35598, *pteropodon* (MO); 35723, aff. *latifolia* (MO); 35846, *pittieri* (MO); 36171, *acuminata* (MO); 36242, *acuminata* (MO); 36811, *pallida* (MO); 36941, *rostulata* (MO); 36983, *daguensis* (MO); 40838, *irrorata* (MO); 40878, *pubescens* (MO); 40964, *dauciodora* (MO); 41186, *purulensis* (MO); 41323, *pubescens* (MO); 41331, *purulensis* (MEXU, MO); 41566, *glabra* (MO); 42434, *dauciodora* (MO); 43019, *microphylla* (MO); 43025, *microphylla* (MO); 46348, *mexicana* (MO); 47768, *mexicana* (MO); 48513, *purulensis* (MO); 48544, *purulensis* (MO); 48785, *purulensis* (MO, NY); 49935, *digitata* (BM, MO); 50081, *purulensis* (MO); 60153, *purulensis* (BM); 67006, *fasciata* (MO); 67288, *imparifolia* (BM); 67556, *purulensis* (MO); 67791, *pubescens* (BM); 68130, *pittieri* (BM); 68745, *purulensis* (MO); 68782, *pteropodon* (BM); 74816, *centradenoides* (BM); 74900, *auriculata* (BM); 74916, *purulensis* (BM); 78594, *chiapensis* (BM).

Croat, T.B. & Grayum, M. 59944, *purulensis* (BM); 60041, *digitata* (MO); 60315, *digitata* (BM, MO); 60380, *purulensis* (BM); 68236, *conjugalis* (BM).

Croat, T.B. & Hannon, D.P. 64371, *pubescens* (BM).

Croat, T.B. & Zhu, G. 76516, purulensis (BM); 76815, *pubescens* (BM); 77220, *magnicarpa* (BM, MO).

D'Arcy, W.G. 5318, *vulcanica* (BM); 10005, *tripartita* (MO); 10472, *pubescens* (MO); 10716, *vulcanica* (MO, US); 10807, *auriculata* (US); 10912, *purulensis* (MO); 10989, *cornmanae* (BM, NY); 11254, *rostulata* (MO); 11258, *fasciata* (MO).

D'Arcy, W.G. & D'Arcy, J. 6839, *microphylla* (MO).

D'Arcy, W.G. & Hammel, B. 12448, *cornuto-cucullata* (BM, MO).

D'Arcy, W.G. et al. 12839, cf. *gracilipes* (BM); 12856, *vulcanica* (MO); 12860, *vulcanica* (MO); 12910, *auriculata* (BM); 13170, *auriculata* (MO).

Dajaes 21732, *acuminata* (C).

Danin, A. 762510, *microphylla* (MO).

Darwin, S.P. 2291, *microphylla* (F).

Davidse, G. 35657, *pubescens* (BM); 35823, *glabra* (BM); 36029, *pubescens* (BM); 36391, *glabra* (BM); 36392, *pubescens* (BM, MO); 36885, *pubescens* (BM, MO); 36985, pubescens (BM, MO).

Davidse, G. & Brant, A. 32312, *microphylla* (BM).

Davidse, G. & Buchanan, H.B. 36893, aff. *pubescens* (BM).

Davidse, G. & D'Arcy, W.G. 10282, *vulcanica* (MO).

Davidse, G. & Herrera, G. 26254, *angustifolia* (BM); 29146, *glabra* (MO); 29151, *pteropodon* (BM); 31134, *fasciata* (BM).

Davidse, G. & Pohl, J.E. 1198, *parietaria* (F, GH, MO); 1528, *cornmanae* (GH); 1623, *cornuto-cucullata* (MO, US); 1660, *digitata* (MO); 1682, *pittieri* (GH, MO).

Davidse, G. et al. 23158, *purulensis* (BM); 29644, *microphylla* (BM); 37219, aff. *vulcanica* (BM).

Davidson, M.E. 56, *purulensis* (F, GH, US); 102, *pansamalana* (GH); 179, *vulcanica* (F); 214, *auriculata* (F, GH); 267, *costaricensis* (F); 335, *rugosissima* (F, GH); 549, *parietaria* (F, GH, MO, US); 717, *costaricensis* (F, US); 860, *pubescens* (F, MO, US); 1027, *vulcanica* (F, GH, MO).

Dawe, M.T. 264, *lindeniana* (K).

Diaz Z. 128, *hyalina* (MO).

Dodge, C. & Goerger, V.F. 9065, *vulcanica* (MO).

Dodge, C. & Thomas, W.S. 4370, *pallida* (GH, MO).

Donnell Smith, J. 1670, *nicrophylla* (NY); 2494, *microphylla* (GH, NY); 2516, *pubescens* (GH); 2751, *irrorata* (US); 2892, *parietaria* (F); 2907, *pubescens* (F); 6779, *pteropodon* (US); 6780, *pteropodon* (US); 7467, *purulensis* (GH, US).

Dressler, R. 1529, *pubescens* (MEXU); 3457, *centradenoides* (F, MO); 3458, *centradenoides* (MO); 3459, *centradenoides* (F, MO); 4056, *rostulata* (BM, MO); 4217, *forgeti* (MO); 4469, *gomeziana* (F, NY).

Dressler, R. & Jones, Q. 47, *pubescens* (BM).

Droege, H. & Diaz 23001, *purulensis* (MEXU); 23002, *purulensis* (BM).

Dryer, V. 35, *auriculata* (F); 36, *pittieri* (F); 83, *auriculata* (F); 84, *angustifolia* (F); 92, *pteropodon* (F); 145, *pittieri* (F); 284, *angustifolia* (F); 1129, *auriculata* (F); 1151, *vulcanica* (F).

Duke, J.A. 12164(1), *imparifolia* (MO); 13020, *nicrophylla* (MO); 14193, aff. *nummulariifolia* (GH, MO); 15578(1), *imparifolia* (US); 15578(2), *imparifolia* (MO); 15644(2), *pteropodon* (MO); 15654, aff. *latifolia* (GH, MO); 15671(2), *digitata* (MO).

Duke, J.A. & Bristan, N. 98, *forgeti* (MO); 8202, *forgeti* (MO).

Duke, J.A. & Correa, M. 14668(2), *imparifolia* (MO).

Duke, J.A. & Elias, T. 13698, *digitata* (MO).

Dunlap, V.C. 387, *microphylla* (F); 399, *hyalina* (F); 428, *pubescens* (F).

Dwyer, J.D. 8859, *imparifolia* (MO); 15269, *dauciodora* (MO); 15352, *irrorata* (MO).

Dwyer, J.D. & Hayden, S.M.V. 7655, *parietaria* (MO); 7723, *purulensis* (GH, MO).

Dwyer, J.D. & Lallathin, B. 8768, cf. *plumulosa* (MO).

Dwyer, J.D. & Liesner, R. 12099, *microphylla* (MO, US).

Dwyer, J.D. et al. 4495, *centradenoides* (MO).

Ebinger, J. 31, *microphylla* (F, MEXU, US); 966, *acuminata* (F).

Elias, T. 13765, *daguensis* (MO).

Endres, A. 172, *pteropodon* (BM); 174, *angustifolia* (BM); 199, *pteropodon* (BM); 253, *hyalina* (BM).

Espinoza 216, *glabra* (BM).

Fasset 28291, *dauciodora* (F, GH, ITIC).

Feiffer B. et al. 1157, *dauciodora* (BM, LAGU).

Felix 108, *dauciodora* (P).

Fendler, A. 259, *microphylla* (MO); 1246, *dauciodora* (K); 1247, *dauciodora* (K).

Fisher, G.L. 35288, *pubescens* (F, P).

Flores, J.S. 5, *microphylla* (F); 8075, *microphylla* (MEXU).

Folsom, J.P. 1212, *magnicarpa* (MO); 1266, *magnicarpa* (MO); 3057, *corona* (MO); 3112, *centradenoides* (MO); 3226, *pteropodon* (MO); 3410, *daguensis* (MO); 3498, *quadrata* (MO); 3498A, *forgeti* (BM); 3894, *daguensis* (MO); 4204, *digitata* (MO); 4375, *daguensis* (MO); 4384, *pteropodon* (MO).

Folsom, J.P. & Button, R. 3288, *magnicarpa* (MEXU, MO).

Folsom, J.P. & Robinson, R. 2377, *imparifolia* (MO).

Folsom, J.P. et al. 2226, *parietaria* (MO); 2239, *rugosissima* (BM, MO); 2253, *purulensis* (BM); 4649, *purulensis* (MO); 4685, cf. *purulensis* (MO); 4807, *pubescens* (LL); 6739, *imparifolia* (MO, NY); 7097, *pteropodon* (MO).

Forsther 10110(132), *pleuroneura* (BM, MSB); 10120(421), *purulensis* (BM, MSB).

Foster, R.B. & Augspurger, C. 2835, *imparifolia* (F).

Galeotti, H. 313, *acuminata* (P); s.n., *acuminata* (P).

Garibaldi, C. et al. 2789, *pubescens* (MO).

Garnier, A. A345, *hyalina* (US); A1310, *hyalina* (GH).

Garwood N.C. et al. 426, *acuminata* (BM, F); 1367, *auriculata* (BM); 1393, *vulcanica* (BM).

Gaspari s.n. '26 August 1848', *involucrata* (K).

Gaumer, G.F. 455, *microphylla* (BM, F, MO, NY); 845, *microphylla* (MO); 1199, *nicrophylla* (F); 1338, *microphylla* (BM, C, F, GH, MO); 1775, *microphylla* (C, GH, MO); 2240, *microphylla* (GH, MO); 2268, *microphylla* (BM, C, F); 2318, *microphylla* (F); 2473, *microphylla* (F); 2740, *microphylla* (F).

Gentle, P.H. 6318, *microphylla* (LL); 7147, *microphylla* (LL); 7266, *glabra* (LL); 7337, *pubescens* (LL); 7388, *glabra* (LL); 9207, *pubescens* (LL).

Gentry, A. 2282, *herniarioides* (MO); 6732, *involucrata* (MO); 7592, *pubescens* (US); 7928, *pubescens* (F, MO).

Gentry, A. & Clewell, A. 7112, *digitata* (MO).

Gentry, A. & Mori, S. 13576, *herniarioides* (F, MO); 13630, *imparifolia* (MO); 14045, *imparifolia* (MO); 14056, *digitata* (F, MO).

Gereau, R.E. 2101, *quercifolia* (MO).

Gereau, R.E. et al. 2194, *microphylla* (BM).

Gillis, W.T. & Plowman, T. 10104, *pteropodon* (GH).

Gilly, C.E. & Hernandez X., E. 283, *ecboliophylla* (GH, MEXU, TEX).

Godfrey, R. 66037, *hyalina* (MO); 66148a, *conjugalis* (MO); 66371, aff. *purulensis* & aff. *cornuto-cucullata* (MO); 67255, *acuminata* (MO); 67263, *pteropodon* (MO).

Gómez, L.D. 19268, *auriculata* (BM); 19272, *conjugalis* (BM).

Gómez, L.D. et al. 21710, *vulcanica* (BM); 21901, *nummulariifolia* (BM); 22407, *vulcanica* (BM).

Gómez Laurito, J. 8544, *auriculata* (F); 8837, *pteropodon* (F); 24121, *microphylla* (BM).

Gómez Laurito, J. et al. 20995, *pittieri* (BM); 23145, *pteropodon* (BM); 23430, aff. *digitata* (BM).
Gómez P., L.D. 2188, *pallida* (F, MEXU); 2195, *pteropodon* (F, MO, NY); 2529, *mexicana* (MEXU); 3304, *gomeziana* (F, MO, NY).
Gonzalez 56, *pteropodon* (MO).
Gonzalez L. 1435, *hyalina* (ITIC).
Goudot, J. s.n. 'Decembre', *lindeniana* (K); s.n. '1844', *involucrata* (P).
Grant, M. 1047, *hyalina* (GH).
Grayum, M. 3324, *pteropodon* (BM); 3335, *angustifolia* (MO); 3388, aff. *quercifolia* (BM); 3405, *imparifolia* (BM); 5085, *pittieri* (BM); 5383, *imparifolia* (BM); 6436, *rugosissima* (MO); 6460, *vulcanica* (BM); 7044, *purulensis* (BM); 7097, *auriculata* (BM); 7106, *conjugalis* (BM); 7183, *vulcanica* (BM); 7281, *tripartita* (CR); 7366, *pteropodon* (BM); 7917, *hyalina* (BM); 9775, *imparifolia* (BM); 10298, cf. *vulcanica* (BM).
Grayum, M. & Hammel, B. 5534, *pubescens* (BM); 10521, cf. *latifolia* (BM).
Grayum, M. & Murakami, N. 9943, *pubescens* (BM).
Grayum, M. & Schatz, G. 5272, *pteropodon* (BM).
Grayum, M. & Sleeper, P. 3273, *glabra* (BM); 3465, *costaricensis* (BM).
Grayum, M. et al. 4532, *conjugalis* (BM); 4553, *purulensis* (MO); 4898, *glabra* (BM); 8281, *acuminata* (BM).
Grijalva, A. 2871, pubescens (BM, MO).
Grijalva, A. & Burgos, F. 1679, *hyalina* (MO); 1718, *microphylla* (MO).
Grijalva, A. & Grijalva, M.V. 1468, *hyalina* (MO); 1470, *nicrophylla* (BM, MO).
Guzman, M. & Castro, D. 1495, *microphylla* (MO); 1556, *microphylla* (BM, MO); 1973, *microphylla* (MO); 2040, *hyalina* (MO).
Guzman, M. et al. 773, *hyalina* (MO); 801, *pubescens* (BM, MO); 947, *pubescens* (BM, MO); 1322, *hyalina* (BM, MO).
Haber, Wm. 1502, *acuminata* (MO).
Haber, Wm. & Bello, C., E. 1675, *imparifolia* (MO); 1982, *imparifolia* (MO); 3169, *pittieri* (MO).
Haber, Wm. & Cruz, E. 7007, *imparifolia* (BM); 8427, *imparifolia* (BM).
Haber, Wm. & Zuckowski, W. 10892, *microphylla* (MO).
Haber, Wm. et al. 4472, *pittieri* (MO); 5504, *imparifolia* (MO).
Haber, Wm. ex Bello C., E. 4910, *acuminata* (MO); 6456, *purulensis* (MO).
Hagen, C. von & Hagen, W. von 2010, *cornmanae* (NY, US).
Hahn, L. 65, aff. *glabra* (P); 208, *microphylla* (MO).
Hall, S.H. & Bockus, S.M. 7907, *pubescens* (MO).
Hamilton, C. & Krager, K. 3736, *vulcanica* (BM); 4010, *adamsiana* (MO).
Hamilton, C. & Stockwell, H. 3607, *parietaria* (BM).
Hammel, B. 950, *magnicarpa* (MO); 1031, *magnicarpa* (MO); 1439, *conjugalis* (MO); 2024, *auriculata* (NY); 2078, *fasciata* (MO); 2191, *digitata* (MO); 2424, *magnicarpa* (MO, NY); 2613, *magnicarpa* (MO); 2669, *forgeti* (MO); 2678, *forgeti* (MO); 2695, *daguensis* (MO); 2869, *vulcanica* (MO); 2900, *vulcanica* (MO); 2988, *vulcanica* (MO); 3146, *fasciata* (MO); 3216, *rostulata* (MO); 3337, *pteropodon* (MO); 3384, *fasciata* (MO); 3481, *magnicarpa* (MO); 3578, *digitata* (MO); 4014, *magnicarpa* (MO); 4077, *imparifolia* (BM); 4138, *magnicarpa* (MO); 4592, *tutensis* (MO); 4648, *corona* (MO, NY); 4702, *adamsiana* (MO); 5173, *pteropodon* (MO); 5188, *fasciata* (MO); 5746, *purulensis* (BM, MO); 5798, *rugosissima* (MO); 6118, *cornmanae* (BM); 6141, *cornmanae* (MO); 7174, *imparifolia* (MO); 7282, *centradenoides* (MO); 15366, *pubescens* (BM).
Hammel, B. & D'Arcy, W.G. 5024, cf. *involucrata* (MO).
Hammel, B. & Trainer, J. 14000, *parietaria* (MO); 14013, *acuminata* (MO).
Hammel, B. et al. 6618, *vulcanica* (MO); 6670, *vulcanica* (MO); 14646, *trichomanophylla* (MO); 15247, *acuminata* (MO); 15249, *imparifolia* (MO); 15268, *tilarana* (MO); 15643, *tridentata* (MO); 15644, *killipiana* (MO); 16378, *imparifolia* (MO); 16394, *forgeti* (BM); 17546, *pallida* (BM).
Hampshire, R. & Whitefoord, C. 83, *purulensis* (BM); 184, *purulensis* (BM); 189, *digitata* (BM, MO, PMA); 192, *purulensis* (BM); 290, *purulensis* (BM); 318, *corona* (BM); 529, *purulensis* (BM); 694, *digitata* (BM, PMA); 767, *purulensis* (BM).
Hampshire, R. et al. 698, *vulcanica* (BM).
Hanan A. 438, *pteridophylla* (MEXU); 444, *chiapensis* (MEXU); 492, *pubescens* (MEXU); 680, *ecboliophylla* (MEXU).
Harmon, W.E. & Dwyer, J.D. 3115, *microphylla* (NY); 4006, *pubescens* (MO).
Hatch, W.R. & Wilson, C.L. 162, *tridentata* (F); 202, *pansamalana* (F).
Hatheway, W.H. 1322, *parietaria* (F); 1375, *vulcanica* (BM, F).
Hawkes, J.G. et al. 2070, *pubescens* (F).
Hawkins, T. 1029, *pubescens* (BM, MO).
Hayes, S. 898, *nicrophylla* (NY).
Hazlett, D.L. 5011, *vulcanica* (F).
Hazlett, D.L. & Brant, A.E. 8099, *ecboliophylla* (BM).
Heath, M. 924, *vulcanica* (MEXU).
Hedger 78, *microphylla* (BM).
Helvetia 12463, *hyalina* (F).
Henshold, N. 1114, aff. *centradenoides* (BM); 1126, aff. *centradenoides* (BM).
Hepper, D.N. 90, *pubescens* (BM); 98, *pittieri* (BM); 124, *hyalina* (BM).
Hernandez A. et al. 209, *pubescens* (F).
Hernandez G., H. 151, *purulensis* (MO); 225, *microphylla* (BM); 1542, *mexicana* (BM).
Herrera, G. 1305, *ecboliophylla* (BM); 1739, *ecboliophylla* (BM); 1874, *pteropodon* (BM); 1897, *imparifolia* (BM); 2955, *microphylla* (BM); 3078, *pubescens* (BM); 3163, *microphylla* (BM); 3440, *vulcanica* (BM); 3752, *tripartita* (BM, CR, MO); 3851, *purulensis* (BM); 5122, *microphylla* (MO); 5308, *cornmanae* (BM, MO); 5516, *purulensis* (F).
Herrera, G. & Chacón, A. 2635, *pittieri* (BM); 2658, aff. *tridentata* (BM); 2795, *purulensis* (BM).
Herrera, G. & Madrigal, E. 2608, *pallida* (BM).
Herrera, G. & Rivera, G. 862, *pubescens* (BM).
Herrera, G. & Robles, R. 812, *glabra* (BM).
Herrera, G. & Solis, M. 2478, *pubescens* (BM).
Herrera C. et al. 569, *pteropodon* (BM); 578, *pittieri* (BM); 580, *ecboliophylla* (BM).
Heusden, van 4962, *vulcanica* (F).
Heyde, A. & Lux, E. 3142, *hyalina* (GH, MO, NY, P); 3145, *senarifolia* (GH, MO, NY); 3146, *dauciodora* (GH, MO, NY, P); 3147, *mexicana* (K); 3148, *vulcanica* (GH); 6234, *herniarioides* (GH).
Hime, J. & Gordon, I. 174, *fasciata* (MO).
Holland, D.L. & Kid, B. 102, *glabra* (BM, MO).
Holm, R.W. & Iltis, H.I. 24, *glabra* (F, GH, NY, P); 34, *auriculata* (P); 521, *dauciodora* (GH, P).
Holme 4356, *ecboliophylla* (NY).
Holst, B.K. 5328, *glabra* (BM); 5329, *pubescens* (BM).
Holton, I.F. 256, *involucrata* (K).
Huft, M. 1940, *pallida* (BM, MO).
Huft, M. & Barringer, K. 2020, *auriculata* (MO); 2049, *auriculata* (F, MO).
Ibarra M. et al. 3844, *daguensis* (BM).
Jaramillo M. & van der Harmen 2766, *lindeniana* (K).
Jimenez M., A. 620, *pittieri* (F); 623, *pittieri* (F); 1010, *glabra* (F); 1954, *pittieri* (F, NY); 1996, *auriculata* (F); 3246, *dauciodora* (F); s.n., *dauciodora* (F).
Jimenez M., A. & Cruz 155, *vulcanica* (F).
Jones, G.C. & Facey, L. 3453, *microphylla* (NY).
Kellerman, W.G. 4849, *hyalina* (MEXU).
Kennedy, H. 619, *pteropodon* (F); 3255, *ecboliophylla* (MO).
Kennedy, H. & Guindon, W. 3705, *angustifolia* (F).
Kennedy, H. et al. 3193, *centradenoides* (MO).
Khan, T. et al. 33, *microphylla* (BM); 311, *cadierei* (BM); 621, *hyalina* (BM); 811, *auriculata* (BM).
Killip, E.P. 3543, *cornmanae* (US); 3546, *purulensis* (US); 3562, *purulensis* (US).
Kirkbride, J. Jr 1121, *centradenoides* (MO).
Kirkbride, J. Jr & Duke, J.A. 414, *pteropodon* (MEXU, MO, NY); 759, *purulensis* (NY); 768, *costaricensis* (NY); 821, *fasciata* (MO); 944, *plumulosa* (MO, NY); 1204, *imparifolia* (MO, NY); 1241, *daguensis* (MO, NY); 1336, *digitata* (MO, NY).
Knapp, S. 1091, *purulensis* (LL, MO); 1622, *rugosissima* (MO); 5330B, *imparifolia* (MO).
Knapp, S. & Mallet, J. 3187, *pubescens* (MO); 4672, *centradenoides* (BM, MO); 4673, *centradenoides* (MO); 4700, *forgeti* (BM).
Knapp, S. & Sytsma, K. 2593, *purulensis* (BM, LL, MEXU, MO); 2600, *tutensis* (MO).
Knapp, S. & Vodicka, M. 5639, *digitata* (MO).
Knapp, S. et al. 2023, *purulensis* (BM, LL); 2024, *purulensis* (BM); 2097,

auriculata (BM); 2105, *rugosissima* (MO); 2114, *conjugalis* (MO); 2128, *purulensis* (BM, MO); 2141, *purulensis* (BM, MO); 4038, *purulensis* (MO); 4045, *fasciata* (MO); 4046, *fasciata* (MO); 4047, *fasciata* (BM, MO); 4138, *purulensis* (BM); 4256, *conjugalis* (MO); 4541, *centradenoides* (MO).

Koptur, S. 124, *pittieri* (MO).

Krukoff, B. 21811, *hyalina* (MO).

Krukoff, B. & Stevens 3384, *pubescens* (MO); 22132, *pubescens* (BM, MO); 22463, *pubescens* (BM, MO); 23206, *microphylla* (BM, MO); 23313, *microphylla* (MO); 23379, *pubescens* (MO).

Kuntze, O. 2108, *pubescens* (NY); 2147, *pubescens* (NY).

La Frankie, J.V. 1052, *acuminata* (GH); 1188, *acuminata* (GH).

Lagos 1909, *dauciodora* (ITIC).

Lankester, C.H. K22, *pubescens* (F); 256, *parietaria* (F).

Lathrop, E. 6769, *pubescens* (MEXU).

Lawton, R. 1164, *imparifolia* (F); 1230, *auriculata* (F).

Le Clezio 11, *forgeti* (MO); 252, *microphylla* (MO); 261, *hyalina* (MO).

Lent, R. 434, *imparifolia* (F); 690, *glabra* (F, MO); 746, *auriculata* (F); 844, *acuminata* (F, MEXU); 845, *pittieri* (F, MO, NY); 921, *costaricensis* (F); 1457, *auriculata* (F); 1590, *imparifolia* (NY); 1606, *parietaria* (F, MO, NY); 1818, *conjugalis* (F); 1852, *auriculata* (F, NY); 1997, *pubescens* (F); 2007, *involucrata* (MEXU, MO); 2017, *pittieri* (F); 2018, *pittieri* (F); 2019, *pittieri* (F, NY); 2047, *parietaria* (F); 2077, *parietaria* (F); 2084, *auriculata* (F, MEXU); 2085, *auriculata* (F); 2417, *pittieri* (MEXU); 2505, *imparifolia* (F); 2590, *tilarana* (F); 2621, *pteropodon* (F); 2696, *vulcanica* (F); 2797, *parietaria* (F); 2801, *parietaria* (F, US); 2807, *angustifolia* (F); 2829, *parietaria* (F); 2847, *auriculata* (F, MO); 3210, *auriculata* (MEXU); 3241, *acuminata* (F, MO, NY); 3256, *imparifolia* (F); 3515, *ecboliophylla* (MEXU, MO); 3516, *pteropodon* (F); 3517, aff. *pteropodon* (F); 3571, *auriculata* (MEXU, MO); 3572, *conjugalis* (F); 3684, cf. *pallida* (F); 3817, *purulensis* (F); 3903, *vulcanica* (F, MO); 3967, *parietaria* (F, MEXU).

León, J. 733, *pubescens* (F).

Lewis, W.H. 6888, *microphylla* (MEXU, MO).

Lewis, W.H. et al. 326, *microphylla* (US); 895, *pubescens* (MO); 1718, *centradenoides* (GH, MO); 1727, *imparifolia* (MO).

Liebmann, F.M. 14238 '2', *acuminata* (C); 14241, *falcata* (C, F); 14242, *acuminata* (C); 14243, *hyalina* (C); 14254, *hyalina* (C); 14256, *vulcanica* (C); 14329, *auriculata* (C); 14339 '1', '2', *parietaria* (C); 21729, *acuminata* (C, NY); s.n., *acuminata* (P); s.n., *pubescens* (GH, P); s.n., *pubescens* (P).

Liesner, R. 300, *vulcanica* (LL); 727, *pteropodon* (GH); 1195, *quadrata* (GH, LL, MO, P, US); 1232, *forgeti* (GH, MO); 1239, *centradenoides* (GH, MO); 1767, *acuminata* (GH); 3123, *pallida* (MO); 3160, *pallida* (MO); 14093, *ecboliophylla* (BM); 14184, *microphylla* (BM); 14212, *hyalina* (MO); 14247, *pubescens* (BM); 15427, *pallida* (MEXU); 26210, aff. *pubescens* (MO); 26221, cf. *vulcanica* (BM); 26538, *quercifolia* (MO); 26598, *pubescens* (BM); 26741, *glabra* (BM).

Liesner, R. & Judziewicz, E. 14487, *vulcanica* (BM); 14666, *pittieri* (MO); 14713, *pittieri* (MO); 14751, *pteropodon* (BM); 14796, *pittieri* (MO); 14805, aff. *pallida* (MO); 14807, *pittieri* (BM); 14907, *angustifolia* (BM).

Liesner, R. et al. 15147, *ecboliophylla* (BM, MEXU); 15276, *glabra* (BM); 15409, *pteropodon* (MO); 15468, *pteropodon* (BM); 15567, *angustifolia* (MO); 15598, *pteropodon* (MO).

Linden, J.J. 71, *pubescens* (Fl-W); 183, *mexicana* (K); 651, *mexicana* (P); 799, *lindeniana* (BM, K, P); 7222, *mexicana* (NY).

LINN -1220.8, *microphylla* (LINN); -1111.25, *parietaria* (LINN).

Loiselle, B.A. 234, aff. *purulensis* (MO); 312, *pteropodon* (MO).

Long, R.W. 3261, *microphylla* (MO).

Lopez L., R. & Martin, G.J. 175, *purulensis* (MO); 208, *pubescens* (MO).

Lorence & Cedillo 672, *purulensis* (MEXU).

Lund, P.W. s.n., *hyalina* (C); s.n. '1', *pubescens* (C).

Lundell, C.L. 330, *pubescens* (F); 845, *microphylla* (F, GH, MO, NY); 6520, *pubescens* (F, LL, NY, US); 15339, *microphylla* (LL); 16263, *daguensis* (LL).

Lundell, C.L. & Contreras, E. 19593, *purulensis* (LL); 20949, *purulensis* (LL); 20974, aff. *imparifolia* (LL).

Luriuz C. 730, *microphylla* (F).

Luteyn, J.L. 703, *ecboliophylla* (MO).

Maas, P.J.M. 1091, *angustifolia* (F); 1155, *parietaria* (F); 1172, *acuminata* (F).

Maas, P.J.M. & Dressler, R. 1621, *corona* (F, MO); 1630, *pteropodon* (F, MO); 4842, *conjugalis* (F); 4880, *auriculata* (F); 4881, *vulcanica* (F); 4995, *rugosissima* (F); 5030, *tutensis* (F).

Maas, P.J.M. & Hammel, B. 7807, *purulensis* (BM).

Maas, P.J.M. & McAlpin, B. 1482, *vulcanica* (MO).

Magaña A., M.A. & Zamudio, S. 270, *mexicana* (MEXU); 327, *pubescens* (MEXU); 334, *chiapensis* (MEXU).

Maj 1887, *parietaria* (GH, NY).

Manriquez, I., G. et al. 3735, *pubescens* (BM).

Manzanares, R. 10, *microphylla* (ITIC).

Marineros, L.E. 40, *microphylla* (BM).

Mart 4933, *pubescens* (GH).

Martinez, H.A. 27, *microphylla* (BM).

Martinez C. 308, *pubescens* (BM); 876, *irrorata* (BM); 877, *pubescens* (BM).

Martinez S., E.M. 20771, *dauciodora* (BM).

Martinez S., E.M. & Grijalba, A. 1880, *pubescens* (MEXU).

Martinez S., E.M. & Reyes, A. 22028, *microphylla* (MEXU).

Martinez S., E.M. & Sandino 1505, *pubescens* (MEXU).

Martinez S., E.M. et al. 8545, *pubescens* (BM); 13170, *dauciodora* (BM); 14100, *dauciodora* (MEXU).

Martius, K.F.P. von s.n. '1827', *rhizobola* (K); s.n. 'Solimoês fluvium, Rio Negro', *imparifolia* (M).

Matuda, E. 103, *glabra* (MEXU); 116, *pubescens* (MEXU); 1120, *acuminata* (GH); 1316, *microphylla* (F); 1322, *vulcanica* (GH); 1745, *pubescens* (GH, NY); 2334, *dauciodora* (LL, MEXU, MO); 2360, *quercifolia* (MEXU); 2573, *quercifolia* (GH, MEXU, NY); 2899, *auriculata* (LL, MEXU); 2903, *dauciodora* (MEXU); 3462, *pubescens* (F, LL, MEXU, NY); 4043, *hyalina* (MEXU); 4198, *glabra* (F, MEXU, NY); 4341, *quercifolia* (F, GH, LL, MEXU, MO, NY); 4607, *dauciodora* (F, LL, MEXU, MO, NY); 4797, *quercifolia* (F, GH, LL, MEXU, MO); 16424, *microphylla* (F, MEXU); 17178, *hyalina* (F, MEXU); 17761, *glabra* (F, MEXU); 17878, *glabra* (F); 17895, *pubescens* (F, MEXU); 28514, *skutchii* (MEXU); 28515, *dauciodora* (MEXU); 28574, *microphylla* (MEXU).

Maxon, W.R. 309, *vulcanica* (NY); 5426, *vulcanica* (F).

Maxon, W.R. & Harvey, A.D. 8132, *auriculata* (GH); 8182, *auriculata* (US); 8206, *auriculata* (US); 8255, *parietaria* (GH); 8356, *parietaria* (US).

Maxon, W.R. & Hayes 8256, *auriculata* (C).

Maxwell, R.H. 219, *daguensis* (MO).

Maya J., S. 556, *pubescens* (BM); 906, *microphylla* (BM); 3382, *microphylla* (BM).

McDaniel, S. 12890, *microphylla* (F).

McPherson, G. 6710, *digitata* (MO); 8637, *fasciata* (MO); 10550, *digitata* (MO); 12205, *digitata* (MO).

Meave del C., J. et al. 1530, aff. *imparifolia* (BM).

Melinon, M. 123, *imparifolia* (P).

Mendez, G., A. 7795, *daguensis* (BM); 8269, *pubescens* (BM).

Mendez, T., A. 6103, *microphylla* (BM); 6412, *pubescens* (BM); 6531, *microphylla* (BM); 6552, *pubescens* (BM); 6553, *pubescens* (BM).

Mendez T., A. & Concepcion M., M. 9858, *glabra* (TEX).

Mendoza, R. et al. 264, *digitata* (US).

Mexia, Y. 767, *microphylla* (BM).

Meyer, F.G. & Rogers, D.J. 2765, *microphylla* (BM); 2845, *glabra* (BM).

Meyer, W. 135, *microphylla* (F).

Miller & Nee 1437, *microphylla* (BM); 1453, *hyalina* (BM, MO).

Miller & Sandino 1213, *pubescens* (BM, MO).

Millspaugh, C.F. 1473, *microphylla* (F).

Miranda, F. 1791, *irrorata* (MEXU); 6533, *pubescens* (MEXU); 6553, *mexicana* (MEXU); 6606, *ecboliophylla* (MEXU); 7863, *pubescens* (MEXU).

Molina A. 12, *dauciodora* (ITIC).

Molina R., A. 1497, *hyalina* (F); 3850, *hyalina* (F, GH, US); 5943, *hyalina* (F, LL); 8663, *parietaria* (F); 8804, *hyalina* (NY); 10130, *parietaria* (MO); 10862, *hyalina* (F); 10940, *glabra* (F, NY); 11048, *parietaria* (F, LL, NY); 12716, *dauciodora* (F, NY); 12893, *hyalina* (F, NY); 12945, *pubescens* (F, NY); 18456, *microphylla* (F, NY); 20670, *microphylla* (F, NY, US); 22119, *dauciodora* (BM, F); 22345, *dauciodora* (F, NY); 22909, *pubescens* (F); 23136, *microphylla* (F, NY); 25743, *dauciodora* (F, MEXU, MO); 25744, *dauciodora* (F); 25774, *quercifolia* (NY); 27431, *hyalina* (F, US); 27479, *cadierei* (BM, F, NY, US); 43286, *purulensis* (F).

Molina R., A. & Molina, A.R. 12151, *pansamalana* (F, LL, NY); 14057, *vulcanica* (NY); 24772, *hyalina* (F); 25704, *hyalina* (F); 27120, *hyalina* (F).
Molina R., A. et al. 17767, *auriculata* (F, NY); 18249, *hyalina* (F).
Monro, A.K. 756, *microphylla* (BM); 759, *hyalina* (BM).
Montalvo, E.A. 4125, *hyalina* (ITIC); 5039, *herniarioides* (ITIC); 6219, *herniarioides* (B, BM, LAGU, MO).
Montalvo, E.A. & Chavez 6277, *acuminata* (B, LAGU, MO).
Montalvo, E.A. & Menjivar 3669, *hyalina* (ITIC); 3856, *hyalina* (ITIC).
Montalvo, E.A. & Montalvo 4813, *dauciodora* (ITIC).
Montalvo, E.A. & Quintanilla 3434, *hyalina* (ITIC).
Moore 14252, *herniarioides* (C).
Moore H.E. Jr 14241, *falcata* (C, F); 2041, *parietaria* (C).
Morales, J.F. & Ramirez, V.H. 2492, *pteropodon* (BM).
Moreno, P.P. 2610, *hyalina* (MO); 2837, *hyalina* (MO); 3389, *hyalina* (BM, MO); 4195, *hyalina* (BM, MO); 4970, *pubescens* (MO); 9525, cf. *pubescens* (MO); 10214, *glabra* (BM, MO); 10318, *hyalina* (BM, MO); 10498, *microphylla* (MO); 10756, *hyalina* (MO); 11000, *microphylla* (MO); 11191, *microphylla* (BM, MO); 11289, *microphylla* (MO); 13135, *pubescens* (MO); 13786, *hyalina* (MO); 17045, *pubescens* (MO); 17154, *hyalina* (MO); 19643, *pubescens* (MO); 19839, *pubescens* (MO); 21744, *glabra* (BM, MO); 23831, *microphylla* (MO); 24921, *pubescens* (BM); 25107, *pubescens* (MO).
Moreno, P.P., & Robleto, W. 20497, *glabra* (MO).
Moreno, P.P. & Sandino, J.C. 12963, *ecboliophylla* (BM); 12986, *pubescens* (MO).
Moreno, P.P. et al. 24684, *microphylla* (MO).
Mori, S. 6666, *pteropodon* (MO).
Mori, S. & Crosby, M. 6338, *daguensis* (MO).
Mori, S. & Kallunki, J. 2521, *corona* (NY); 3234, *pteropodon* (MO); 5478, *digitata* (MO); 5736, *vulcanica* (US); 6041, *centradenoides* (MO, US).
Mori, S. & Witherspoon, J. 7952a, *rostulata* (MO).
Mori, S. et al. 3911, *corona* (NY); 6449, *rostulata* (BM, MO); 7527, *pteropodon* (MO).
Morton, C.V. 7348, *microphylla* (US).
Muenscher, W.C. 12456, *microphylla* (F, GH).
Nee, M. 10452, *quadrata* (US); 10477, *forgeti* (MO); 27626, *pubescens* (MO).
Nee, M. & Hansen, B.F. 185454, aff. *acuminata* (F); 18549, *pubescens* (F); 18725, *acuminata* (F, GH).
Nee, M. & Taylor, K. 26869, aff. *fasciata* (BM).
Neill, D. 2800, *microphylla* (MO); 3730, *hyalina* (BM, MO); 3758, *glabra* (BM); 4297, *glabra* (BM, MO).
Nelson, C. 2162, *hyalina* (MO).
Nelson, C. & Romero, E. 4712, *pubescens* (MO).
Nelson, C. & Vargas, E. 2283, *hyalina* (MO).
Nelson, C. et al. 3534, *parietaria* (MO).
de Nevers, G. 4053, *purulensis* (MO); 5243, *centradenoides* (BM).
de Nevers, G. et al. 5515, aff. *purulensis* (MO).
Nevling, L.I. & Gomez-Pompa, A. 116, *irrorata* (F); 2468, *irrorata* (F, GH).
Nichols, C.E. 1498, *microphylla* (BM, GH).
O'Kane & Salinas 3501, *microphylla* (BM).
Oersted, A.S. 1560, *acuminata* (K); 1860, *acuminata* (K); 14240, *herniarioides* (C); 14251, *microphylla* (C); 21730, *auriculata* (GH, NY); s.n., *auriculata* (C); s.n. 'Aguacate', *microphylla* (C).
Opler, P. 805, *pteropodon* (F, MO).
Orcutt, C. 3352, *microphylla* (BM, F).
Orozco, A. 197, *parietaria* (F); 249, *hyalina* (F); 253, *microphylla* (F); 275, *parietaria* (F); 281, *herniarioides* (F).
Ortega, R. 360, *microphylla* (BM).
Ortiz, R.T. 1632, *killipiana* (BM, F).
Palmer, E. 362, *microphylla* (BM).
Pavón, J.A. s.n., *dauciodora* (Fl-W).
Peck, M.E. 555, *microphylla* (GH); 559, *pubescens* (GH).
Pipoly, J.J. 3713, *hyalina* (MO); 4834, *hyalina* (MO).
Pittier, H. 328, *pubescens* (BM, NY); 329, *pansamalana* (GH); 3086, *herniarioides* (F); 3230, *conjugalis* (NY); 12693, *microphylla* (US); 14046, *parietaria* (GH); 14149-sheet 1080422, *pittieri* (US); 14149-sheet 577992, *pittieri* (US); 16032, *fasciata* (BM, GH).
Pittier, H. & Tonduz, A. 2384, *parietaria* (P).
Pocasangre 11, *microphylla* (ITIC).
Poeppig, E.F. s.n. 'Dec. 1829', *hyalina* (C).
Polakowsky, H. 150, *vulcanica* (BM).
Porter, D.M. et al. 4419, *centradenoides* (MO); 4446, *centradenoides* (GH, MO); 4462, *centradenoides* (GH, MO); 4463, *centradenoides* (MO); 4630, *centradenoides* (MO); 4646, *centradenoides* (MO).
Pringle, C.G. 3550, *glabra* (GH, K); 8152, *acuminata* (GH, P).
Proctor, G.R. 25056, *quercifolia* (LL); 25072, *senarifolia* (LL); 25228, *quercifolia* (LL); 25244, *pubescens* (LL); 25255, *pubescens* (LL); 25256, *parietaria* (LL); 25361, *parietaria* (LL); 25425, *senarifolia* (LL); 25452, *glabra* (LL); 25488, *dauciodora* (LL); 25516, *microphylla* (LL); 31810, *microphylla* (LL); 31848, *pubescens* (LL); 32144, *ecboliophylla* (LL); 32395, *auriculata* (LL); 32431, *conjugalis* (LL); 32439, *pittieri* (LL); 32440, *purulensis* (LL); 32441, *costaricensis* (LL).
Purpus, C.A. 7470, *irrorata* (MO, NY, US); 7479, *irrorata* (GH); 7532, aff. *centradenoides* (GH).
Quiros, C.M. 464, *nummulariifolia* (F).
Ramamoorthy, T.P. 4359, *microphylla* (BM).
Raven, P.H. 20861, *pallida* (MO); 21544, *pallida* (F, MO); 21545, *pallida* (F, MO); 22004, *hyalina* (F).
Raven, P.H. & Breedlove, D.E. 19813, *microphylla* (F).
Renderos, M. 209, *involucrata* (B, LAGU, MO); 238, *acuminata* (B, LAGU, MO).
Robertson, J. 14(2), *microphylla* (BM).
Reyes, J.R. 363, *pubescens* (MO).
Reyes G., A. 1634, *mexicana* (BM).
Reyes G., A. et al. 1620, *microphylla* (BM).
Rios, D.E. 275, *hyalina* (MO).
Rivera, G. 1, *vulcanica* (BM); 239, *vulcanica* (BM); 322, *auriculata* (BM).
Robles, R. 2114, *ecboliophylla* (BM).
Robleto, W. 558, *microphylla* (MO); 994, *pubescens* (BM, MO); 1366, *hyalina* (BM, MO); 1934A, *pubescens* (MO).
Rodriguez, J.V. 2816, *nummulariifolia* (F); 2907, *glabra* (F).
Roe, K.E. et al. 729, *pubescens* (F); 1065, *microphylla* (F).
Rojas 136, *hyalina* (MO, NY); 207, *ecboliophylla* (BM).
Rosas R.M. 349, cf. *glabra* (A, BM); 508, *microphylla* (BM); 628, *microphylla* (BM); 21200, *acuminata* (F).
Rossbach, G. 3384, *microphylla* (GH); 3385, *microphylla* (GH); 3576, *pubescens* (GH); 3756, *pubescens* (GH); 3808, *microphylla* (GH); 3819, *imparifolia* (GH); 3878, *imparifolia* (GH).
Rovirosa, J.N. 326, *microphylla* (NY); 938, *chiapensis* (PH).
Rowlee, W.W. & Rowlee 376, *pallida* (US).
Salas 1423, *nummulariifolia* (F).
Sanchez et al. 437, *quercifolia* (BM).
Sandino, J.C. 2729, *microphylla* (BM, MO); 3470, *pubescens* (MO).
Sandoval, E. & Chinchilla 671, *microphylla* (MO); 673, *herniarioides* (B, LAGU, MO).
Sandoval, E. & Sandoval 848, *microphylla* (B, LAGU, MO).
Santiz C. 15, *microphylla* (TEX); 366, *microphylla* (TEX); 615, *glabra* (TEX); 616, *microphylla* (TEX); 758, *microphylla* (TEX).
Santiz R. 229, *dauciodora* (TEX).
Schaffner, J.G. 294, *microphylla* (C).
Schipp, W.A. 518, *pubescens* (BM, F, NY); 977, *microphylla* (BM, F, GH, NY); 1092, *microphylla* (BM, F, MO, NY); 8-702, *chiapensis* (F).
Schlim, L.J. 701, *latifolia* (P).
Schnell, R.A.A. 83, *pittieri* (F).
Schubert, B. & Rogerson 829, *glabra* (GH).
Schwabe, W. & Kailing, W. s.n., *microphylla* (MEXU).
Seemann, B.C. 561, *centradenoides* (BM); 1099, *centradenoides* (BM, F, MO).
Seibert, R.J. 293, *vulcanica* (GH).
Seiler, R. 766, *vulcanica* (F); 768, *dauciodora* (F).
Serre s.n., *hyalina* (P).
Sessé, M. et al. 4525, *killipiana* (F); 4526, *killipiana* (F); 4540, *pubescens* (F); 4541, *pubescens* (F); 4542, *nummulariifolia* (F); 4543, *parietaria* (F); 4546, *parietaria* (F); 4551, *parietaria* (F).
Seymour, F.C. s.n., *microphylla* (BM); 1332, *microphylla* (BM, F, MO); 1499, *microphylla* (MO); 2124, *hyalina* (MO); 3479, *hyalina* (MO); 5215, *microphylla* (MO); 5299, *microphylla* (MO).
Shank, P.J. & Molina A., R. 4244, *ecboliophylla* (US); 4998, *ecboliophylla* (US).

Shattuck, O.E. 196, *microphylla* (F, MO); 1078, *microphylla* (F).
Short, M. & Stafford, P. 39, *pansamalana* (BM); 145, *glabra* (BM).
Skutch, A.F. 559, *quercifolia* (GH, US); 944, *skutchii* (GH, US); 974, *skutchii* (GH, US); 1354, *irrorata* (GH, US); 1771, *glabra* (GH); 1793, *microphylla* (GH, US); 2311, *pubescens* (GH, MO, NY); 3143, *parietaria* (GH, MO, NY, US); 3186, *cornmanae* (GH, MO, NY, US); 3592, *pittieri* (GH, MO, NY, US); 3646, *parietaria* (GH, MO, NY, US); 3847, *hyalina* (GH, MO, NY, US).
Sloane, H. Vol. 2: 120, *parietaria* (BM-SL).
Smith, A. A443, *pittieri* (F, US); F1868, *imparifolia* (F, US); F1872, *pteropodon* (F); H17, *pubescens* (F); H74, *auriculata* (F); H75, *vulcanica* (F); H335, *auriculata* (F); H340, *angustifolia* (F); H400, *pittieri* (F); H425, *pittieri* (F); H492, *pteropodon* (F); H551, *pittieri* (F); H565, *parietaria* (F); H990, *ecboliophylla* (F, MO); NY558, *parietaria* (NY); NY717, *pittieri* (F, NY); NY718, *pittieri* (NY); NY776, *angustifolia* (NY); NY990, *ecboliophylla* (F, GH, NY); NY1062, *parietaria* (F, NY); NY1540, *parietaria* (NY); P2275, *parietaria* (GH, US); P2611, *ecboliophylla* (F); P2669, *pteropodon* (F); PC150, *angustifolia* (US); PC328, *pittieri* (F).
Smith & Smith 865, *involucrata* (K).
Sousa, M. 2651, *irrorata* (F).
Spellman, D.L. 1359, *microphylla* (MO).
Spellman, D.L. & Newey, W.W. 1689, *microphylla* (MO).
Spruce, R. s.n., *dauciodora* (K); 745, *dauciodora* (K); 4434, *imparifolia* (BM); 6047, *dauciodora* (K).
Standley, P.C. 306, *hyalina* (F); 8640, *microphylla* (F); 8710, *hyalina* (F); 9800, *microphylla* (F); 9977, *pubescens* (F); 10708, *pubescens* (F); 10764, *pubescens* (F); 11261, *hyalina* (F); 11323, *microphylla* (F); 16186, *microphylla* (F); 16535, *hyalina* (F); 16652, *microphylla* (F); 16661, *nummulariifolia* (F); 17756a, *microphylla* (F); 18393, *pubescens* (F); 19504, *hyalina* (NY); 19627, *hyalina* (GH); 22206, *hyalina* (GH, NY); 22409, *microphylla* (MO); 22682, *hyalina* (GH); 23998, *microphylla* (F); 28555, *nummulariifolia* (F); 29153, *hyalina* (F); 32483, *parietaria* (US); 32879, *hyalina* (US); 33943, *pittieri* (US); 34355, cf. *costaricensis* (US); 37241, *pteropodon* (US); 37323, *pteropodon* (US); 37337, *pteropodon* (US); 37769, *acuminata* (US); 37791, *acuminata* (F); 37797, *costaricensis* (US); 37809, *pittieri* (US); 37899, *purulensis* (US); 38393, *auriculata* (US); 38541, *vulcanica* (US); 38697, *vulcanica* (US); 38819, *glabra* (US); 38822, *parietaria* (US); 39204, *pittieri* (US); 39234, *vulcanica* (BM, US); 39454, *vulcanica* (US); 41191, *nummulariifolia* (F); 42180, *vulcanica* (C); 42546, *hyalina* (US); 42633, *vulcanica* (US); 42710, *vulcanica* (US); 42816, *vulcanica* (NY); 43084, *vulcanica* (C); 43102, *vulcanica* (GH); 53101, *microphylla* (F, US); 53406, *microphylla* (F); 53925, *hyalina* (F); 57774, *dauciodora* (US); 58014, *hyalina* (F); 58788, *dauciodora* (F, US); 60199, *irrorata* (F); 61929, *dauciodora* (F); 62231, *irrorata* (F); 66554, *microphylla* (F); 66890, *irrorata* (F, US); 67031, *pubescens* (F); 68147, *skutchii* (F, US); 68491, *auriculata* (F); 68548, *skutchii* (F); 68693, *irrorata* (F); 68723, *irrorata* (F); 68830, *microphylla* (F); 69120, *microphylla* (F); 69206, *pubescens* (F); 69866, *microphylla* (F); 70001, *pubescens* (F); 70353, *glabra* (F); 70424, *glabra* (F); 70852, *pubescens* (F); 71079, *purulensis* (F); 71092, *pansamalana* (F); 71245, *pansamalana* (F); 71250, *pansamalana* (F); 71253, *pubescens* (F); 71287, *pansamalana* (F); 71374, *pansamalana* (F); 71665, *pansamalana* (F); 76215, *microphylla* (F); 76216, *microphylla* (F); 76641, *microphylla* (F); 76725, *hyalina* (F); 76827, *microphylla* (F); 76915, *microphylla* (F); 77177, *hyalina* (F); 77877, *hyalina* (F); 77973, *microphylla* (F); 78332, *nummulariifolia* (F); 84606, *irrorata* (F); 84857, *skutchii* (F); 84920, *dauciodora* (F); 84931, *skutchii* (F); 85405, *dauciodora* (F); 85470, *dauciodora* (F); 85569, *skutchii* (F, US); 86491, *auriculata* (F); 87172, *irrorata* (F, US); 87187, *pubescens* (F); 88246, *hyalina* (F); 88533, *microphylla* (F); 88713, *hyalina* (F); 89277, *irrorata* (F); 89785, *pansamalana* (F); 89797, *pansamalana* (F); 90487, *pansamalana* (F); 90669, *pubescens* (F, LL); 90727, *pansamalana* (F, US); 90771, *pansamalana* (F); 91394, *pansamalana* (F, US); 91506, *pansamalana* (F); 91718, *riparia* (F); 91768, *microphylla* (F); 92191, *pansamalana* (F).
Standley, P.C. & Chacón, P. 5661, *microphylla* (F); 7168, *hyalina* (F); 7203, *nummulariifolia* (F).
Standley, P.C. & Padilla B. 2766, *hyalina* (F); 3530, *microphylla* (F).
Standley, P.C. & Torres R., R. 47591, *vulcanica* (GH); 51366, *vulcanica* (US).
Standley, P.C. & Valerio J. 43765, cf. *auriculata* (GH); 44753, *tilarana* (US); 45106, *pubescens* (GH); 45398, *imparifolia* (US); 45409, *ecboliophylla* (US); 49014, cf. *costaricensis* (US); 49676, *pittieri* (GH); 49715, *vulcanica* (BM); 49815, *pittieri* (US); 49943, *vulcanica* (US); 50296, *pteropodon* (US); 51947, *pittieri* (US); 52023, *pittieri* (US); 52192, *vulcanica* (US).
Steggerda, M. 8, *microphylla* (F); 1936, *microphylla* (F).
Stern, W.L. et al. 541, *pubescens* (US); 2006, *parietaria* (US).
Stevens, W.D. 13580, *pittieri* (BM, MO); 13918, *cornmanae* (MO); 13929, *conjugalis* (BM, F, MO); 14001, *auriculata* (MO); 18167, *vulcanica* (BM, MO); 18209, *auriculata* (BM); 18340, *purulensis* (MO); 18417, *pubescens* (BM, MO); 21811, *hyalina* (BM); 22981, *hyalina* (BM).
Stevens, W.D. & Krukoff, B. 2972, *microphylla* (MO); 3247, *hyalina* (MO); 3514, *hyalina* (BM, MO); 4003, *hyalina* (BM, MO); 4085, *hyalina* (MO); 4230, *microphylla* (BM, MO); 4352, *hyalina* (BM, MO); 4426, *microphylla* (BM); 7288, *microphylla* (MO); 7401, *microphylla* (BM, MO); 8714, *hyalina* (MO); 8731, *microphylla* (BM, MO); 9180, *pubescens* (BM, MO); 9274, *pubescens* (BM, MO); 9605, *pubescens* (BM, MO); 10095, *microphylla* (MO); 10757, *hyalina* (MO); 10937, *microphylla* (MO); 11355, *pubescens* (BM, MO); 11667, *parietaria* (MO); 11822, *microphylla* (MO); 11849, *hyalina* (BM, MO); 15595, *hyalina* (BM); 16830, *microphylla* (MO); 17653, *hyalina* (BM, MO).
Stevens, W.D. & Martinez S., E. 25725, *microphylla* (MO).
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Stewart 9, *microphylla* (GH).
Steyermark, J.A. 29410, *microphylla* (F); 30017, *vulcanica* (F); 30019, *auriculata* (F); 31706, *pubescens* (F); 32647, *dauciodora* (F); 33470, *skutchii* (F); 33897, *irrorata* (F, US); 34276, *dauciodora* (F); 35371, *microphylla* (F, US); 35727, *dauciodora* (F, US); 36349, *auriculata* (F); 36406, *skutchii* (F); 37227, *irrorata* (F, US); 37327, *auriculata* (F); 37482, *mexicana* (F); 37496, *irrorata* (F); 37521, *quercifolia* (F); 37693, *auriculata* (F); 39517, *chiapensis* (F, US); 39854, *irrorata* (NY); 39926, *microphylla* (F); 41826, aff. *glabra* (F); 41994, *ecboliophylla* (F, US); 42450, *microphylla* (F); 43646, *purulensis* (F); 43650, *auriculata* (F); 43782, *mexicana* (F); 43923, *pubescens* (F); 44093, *pubescens* (F); 44106, *glabra* (F); 44199, *pansamalana* (F, NY); 44555, *pubescens* (F); 44700, *killipiana* (F, NY, US); 44720, cf. *costaricensis* (F); 44751, *pleuronenra* (F, NY, US); 44756, *irrorata* (F); 44757, *killipiana* (F); 44760, *microphylla* (F); 45408, *pubescens* (F, NY, US); 45814, *microphylla* (F); 45823, *pubescens* (F, LL, US); 46818, *pubescens* (F, US); 47385, *skutchii* (F); 48493, *dauciodora* (F, US); 48540, *glabra* (F); 48604, *pansamalana* (F, US); 48623, *pansamalana* (F, US); 48842, *pansamalana* (F); 49098, *dauciodora* (F); 49165, *pubescens* (F, NY); 49318, *irrorata* (F, NY); 49521, *glabra* (F); 49638, *glabra* (F); 49642, aff. *auriculata* (F); 49783, *dauciodora* (F, US); 49873, *mexicana* (F); 50033, *quercifolia* (F); 50446, *microphylla* (F); 50653, *dauciodora* (F, NY); 51728, *pansamalana* (F, NY).
Steyermark, J.A. & Allen, P.H. 17252, *pteropodon* (MO).
Stork, H.E. 1642, *auriculata* (F); 1806, *vulcanica* (F).
Sullivan, G.A. 350, purulensis (MO); 486, *imparifolia* (MO, NY).
Swartz, O. s.n., *herniarioides* (BM, S); s.n., *nummulariifolia* (BM).
Sytsma, K. 3746, *centradenoides* (BM); 4072, *centradenoides* (BM); 4080, aff. *digitata* (MO).
Sytsma, K. & Anderson, L. 4445, *forgeti* (BM); 4495, *magnicarpa* (MO); 4720, *purulensis* (MO).
Sytsma, K. & Antonio, T. 3059, *tutensis* (LL, MO).
Sytsma, K. & Stevens, W.D. 2176, *vulcanica* (LL, MO).
Sytsma, K. et al. 4211, *daguensis* (BM); 4386, *daguensis* (MO); 4993, *vulcanica* (BM, MO).
Taylor, J. 17686, *auriculata* (NY).
Taylor, R.J. 4601, *vulcanica* (NY).
Téllez, O.V. 12481, *microphylla* (BM).
Téllez, O.V. et al. 7832, *hyalina* (MO).
Tenorio L., P. 5607, *mexicana* (MEXU); 14645, *pubescens* (BM).

Terry, M.E. 1341, *auriculata* (F, GH).
Terry, M.E. & Terry, R.A. 1440, *forgeti* (F, GH); 1512, *daguensis* (F, GH, MO); 1516, *centradenoides* (F, GH); 1520, *centradenoides* (F, GH, MO); 1556, *pteropodon* (F, GH, MO); 1563a, *digitata* (F, GH, MO); 1617, *imparifolia* (F, GH).
Thieme, C. 5493, *hyalina* (GH).
Thorne, R.F. & Lathrop, E. 40369, *pansamalana* (LL); 40371, *mexicana* (LL); 40389A, *irrorata* (LL).
Ton, A.S. 1203, cf. *dauciodora* (LL); 2503, *pubescens* (LL); 2803, *mexicana* (F); 2878, *irrorata* (F, LL); 2938, *herniarioides* (NY); 4176, *glabra* (MEXU); 7731, *pansamalana* (BM); 8173, *pansamalana* (BM).
Ton, A.S. et al. 9238, *glabra* (TEX).
Tonduz, A. 1402, *hyalina* (BM, P); 1942, *auriculata* (US); 2086, *auriculata* (BM); 7179, *hyalina* (F, GH); 7467, *costaricensis* (GH); 8854, *pubescens* (BM, GH, P); 9252, *pteropodon* (US); 11805, *vulcanica* (NY); 11925, *vulcanica* (NY).
Toriz, A., G. & Campos V. 924, *pubescens* (BM).
Torres, C., R. & Cedillo, T.R. 705, *dauciodora* (BM).
Torres, C., R. & Hernández, H. 6487, *nicrophylla* (BM).
Torres, C., R. & Martinez 7498, *dauciodora* (BM).
Torres, C., R.C. et al. 3998, *dauciodora* (BM).
Transito 5, *microphylla* (ITIC).
Triana, J. 887, *centradenoides* (BM, NY, P); 888, *centradenoides* (BM, P); 889, *daguensis* (BM, P); s.n., *fasciata* (BM, P); s.n., *lindeniana* (K); s.n., *pteropodon* (BM, P).
Triana, J. & Linden, J.J. 236, *lindeniana* (K).
Tróchez, L. 36, *glabra* (MEXU, MO).
Tucker, J.M. 714, *hyalina* (F); 715, *hyalina* (GH, LL, NY, US).
Tuerckheim, H. von s.n., *pleuroneura* (NY); 753, *pubescens* (NY, P); 754, *pleuroneura* (GH, NY, P); 939, *pansamalana* (GH, NY, P); 974, *pubescens* (P); 1040, *riparia* (GH, NY, P); 1264, *pubescens* (BM, F, GH, MO, NY, P); 1270, *parietaria* (F, P); 1296, *pansamalana* (F, GH, MO, NY); 1312, *microphylla* (F, NY); 1707, *purulensis* (BM, C, F, GH, NY); 1708, *riparia* (GH, NY); 1835, *glabra* (NY); 1980, *dauciodora* (BM, F, GH, MO, US); 2011, *tridentata* (C, F, GH, MO, NY); 7983, *ecboliophylla* (GH, MO, NY, US); 8568, *hyalina* (F, GH, NY); 8754, *pubescens* (GH).
Tyson, E.L. 5209, *nicrophylla* (MEXU).
Tyson, E.L. & Blum, K.E. 3948, *forgeti* (MO).
Tyson, E.L. & Loftin, H. 6304, *microphylla* (MEXU).
Utley, J. & Utley, K. 1101, *pallida* (F); 1335, *parietaria* (F); 2378, *angustifolia* (NY); 2905, *costaricensis* (F); 3403, *purulensis* (LL); 3599, *auriculata* (F); 4833, cf. *costaricensis* (F); 5015, *purulensis* (F, MO); 5103; *pittieri* (F).
Valerio R. 212, *microphylla* (F); 277, *hyalina* (F); 444, *imparifolia* (F); 716, *glabra* (F); 1165, *auriculata* (F); 1244, *pteropodon* (F); 1291, *nummulariifolia* (F); 1373, *pteropodon* (F); 1406, *pittieri* (F); 1406a, *parietaria* (F); 1556, *pteropodon* (F); 1661, *costaricensis* (F); 3072, *microphylla* (F); 3608, *microphylla* (F).
Vazquez T. 463, *pubescens* (F).
Ventura A., F. 1275, *microphylla* (F); 2372, *microphylla* (F); 20593, *pubescens* (MEXU).
Villacorta, R. 94, *microphylla* (LAGU); 96, *involucrata* (LAGU); 97, *microphylla* (LAGU); 115, *acuminata* (LAGU); 1026, *dauciodora* (LAGU, MO).
Villacorta, R. & Lemus 442, *hyalina* (BM, MO).
Vincelli, P. 372, *glabra* (BM, MO); 389, *pubescens* (BM, MO).
Weberling 1310, *herniarioides* (ITIC).
Webster, G.L. 12189, *parietaria* (F).
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Wedel, H. von 2203, *pteropodon* (US); 2487, *microphylla* (GH); 2847, *microphylla* (US).
Weddell, H.A. 4561, *dauciodora* (P).
Wendt, T. et al. 2538, aff. *pteridophylla* (BM); 3088, *tridentata* (BM); 3912, aff. *pteridophylla* (BM); 3919, *irrorata* (BM); 3983, *irrorata* (BM); 4169, *tridentata* (BM); 4877, aff. *pteridophylla* (BM); 4923, *mexicana* (BM); 4992, *microphylla* (BM); 4997, *glabra* (BM); 5421, *glabra* (BM); 5576, *mexicana* (BM).
Werff, H. van der & Hardeveld, C. van 6575, *purulensis* (BM); 6721, *digitata* (MO); 6798, *digitata* (MO).
Werff, H. van der & Herrera 6286, *auriculata* (BM); 6397, *vulcanica* (BM).
Weston, A.S. 1512, *pteropodon* (F); 5066, *pteropodon* (F).
Weston, A.S. et al. 3449, *parietaria* (MO).
White, P. 173, *vulcanica* (MO); 228, cf. *auriculata* (GH).
Whitefoord, C. 1136, *pubescens* (BM); 1597, *microphylla* (BM); 1786, *chiapensis* (BM); 1857, *pubescens* (BM); 3216, *pubescens* (BM); 3266, *pubescens* (BM); 3297, *pubescens* (BM); 9450; *microphylla* (BM); 32997, *pubescens* (F).
Whitefoord, C. & Eddy, A. 426, *forgeti* (BM); 437, *forgeti* (BM); 496, *pteropodon* (BM).
Whittemore 82-049, *purulensis* (TEX).
Wilbur, R. et al. 11882, *vulcanica* (F, GH); 13527, *purulensis* (F, GH, NY); 22864, *dauciodora* (F).
Wiley, J.R. 522a, *nicrophylla* (MO); 552, *microphylla* (MO).
Williams, L.O. 810, *forgeti* (F, NY); 837, *pubescens* (NY); 16396, *auriculata* (F); 16461, *acuminata* (F); 16863, *microphylla* (BM, F, GH); 17253, *parietaria* (F, GH).
Williams, L.O. & Allen 16523, cf. *costaricensis* (F, GH).
Williams, L.O. & Molina R., A. 400, *hyalina* (F); 8663, *parietaria* (NY); 10406, *microphylla* (F, MO); 10664, *microphylla* (BM, F); 11443, *hyalina* (F, GH, MEXU); 14479, *pubescens* (GH).
Williams, L.O. & Williams 18589, *dauciodora* (F, US).
Williams, L.O. et al. 23078, *dauciodora* (F); 23644, *pubescens* (NY); 24359, *pittieri* (F); 24400, *dauciodora* (F); 24664, *pubescens* (F); 25758, *auriculata* (GH, NY); 25770, *dauciodora* (F, NY); 25792, *auriculata* (F); 25794, *dauciodora* (F); 25954, *skutchii* (F, MO); 26102, *skutchii* (F); 26211, *auriculata* (BM, F); 26582, *hyalina* (F); 26776, *skutchii* (F); 26955, *hyalina* (F, GH, NY, US); 27492, *hyalina* (F); 27985, *hyalina* (F, NY, US); 28025, *auriculata* (F, NY); 28047, *parietaria* (NY, US); 28342, *hyalina* (F, NY, US); 28979, *pubescens* (F, NY); 40199, *microphylla* (F); 40410, *pubescens* (F); 41999, *microphylla* (F); 42013, *microphylla* (F); 43234, *microphylla* (F); 43624, *microphylla* (F).
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Pilea senarifolia Donn. Sm. 16
Pilea serpyllacea (Kunth) Liebm. 15
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Pilea tilarana W.C. Burger 16
Pilea trianaeana Wedd. 13
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Urtica ciliaris L. 15
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